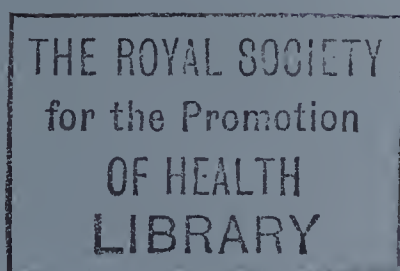




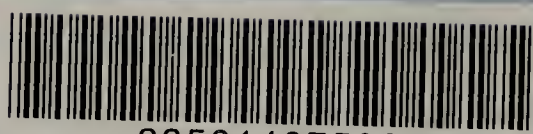
REPORT

OF THE



**DIRECTOR-GENERAL
OF PUBLIC HEALTH**

FOR 1966



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No. 68

1967

PARLIAMENT OF NEW SOUTH WALES



REPORT
OF THE
Director-General of Public Health
For 1966

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DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES

Office of the Director-General of Public Health
52 Bridge Street, Sydney

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Administrative Officer, Public Health Services and Secretary, Board of Health
WILLIAM MATHER, Esq.

DIVISIONS AND BRANCHES

The following Divisions and Branches are controlled by the Director-General of Public Health: Maternal and Child Health; Tuberculosis; Dental Services; Epidemiology; Occupational Health; Forensic Medicine; Government Analyst; Medical Officers of Health for the Metropolitan, Newcastle, South Coast, Western, North Western, North Coast, Riverina and Broken Hill Districts; Institute of Clinical Pathology and Medical Research; Health Education; Pure Food; Health Inspection; Private Hospitals.

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Report of the Director-General of Public Health

TO

The Honourable The Minister for Health

(The Hon. A. H. JAGO, M.L.A.)

Sir,

I have the honour to present my Annual Report for the year ended the 31st December, 1966, in which there were several important variations in administration of public health some relating to statutory variations.

Probably the most significant single event was the passage of the Poisons Act, 1966, whereby New South Wales has achieved uniformity in the supervision of poisons and poisonous substances with the other States of the Commonwealth. Administratively this has led to the formation of a Poisons Branch to which will be allotted some of the inspectorial functions of the Pharmacy Board and the supervision of the licensing, manufacture, and retail sale of drugs of addiction, the latter now being the function of the Chief Secretary's Department. Penalties for the illegal use or distribution of drugs of addiction have been substantially increased, and Division 2 of the Act requires a form of notification from doctors of drug addicts and of patients for whom it is necessary to prescribe certain drugs of addiction for a period greater than two months. Provision is also included in the Act constituting an offence to possess certain drugs without the authority described in the Act. This removes an anomaly which has hitherto prevented police action to contain the illegal distribution and use of certain habituating drugs such as the amphetamines and barbituates, and which should prove to be yet another measure to discourage youthful groups experimenting with such drugs, which is often the pathway to more potent substances and addiction.

The Public Health Act was amended to provide for appointment to the Board of Health for a specific term of five years as contrasted with indefinite appointments previously. Opportunity was also taken in the same amending Bill to increase penalties under the Act to a more realistic level. A Departmental Committee is revising the Act generally. Surprisingly, the principles stated in the first Act of 1902, are in large measure still valid, although some of the regulations, and particularly those relating to infectious diseases, are outmoded in light of modern scientific knowledge. The list of infectious diseases notifiable under the Act, and the Regulations pertaining thereto were modified to meet existing conditions.

Throughout the year the Investigating Committee constituted under the Medical Practitioners (Amendment) Act, 1963, of which I am a member, investigated seventeen complaints against Medical Practitioners. Of this total seven complaints were dismissed, six were found valid and dealt with by the Investigating Committee, and four were referred to the Disciplinary Tribunal. The Committee has established its procedures and permits legal representation from both the complainant and the doctor involved. One of the disadvantages of the disciplinary provisions of the Medical Practitioners (Amendment) Act, 1963, is that the complainant must prosecute any reference to the Disciplinary Tribunal from the Investigating Committee. This may well involve a complainant in considerable personal expense for which there is no provision for assistance and recovery under the Act. This may well be a deterrent to continuance of such complaints and consideration might well be given to the provision of legal facilities in such circumstances. The cost in any one year would not be great as the majority of complaints do not warrant reference to the Disciplinary Tribunal, and of those which are referred only a small proportion would involve private complainants as distinct from nominal complainants, nominated by the Department.

The decision of the Metropolitan Water Sewerage and Drainage Board to fluoridate the Sydney Water Supply is undoubtedly the most significant single preventive health measure of the year. The efficiency of fluoridation has been demonstrated beyond doubt, and in the coming years its benefits will be available to over 50 per cent of the population of the State by this single decision. The number of water supplies already fluoridated is twenty, involving the townships and surrounding areas of Bega, Cobar, Condobolin, Cooma, Forbes, Gilgandra, Goulburn, Grafton, Griffith, Hay, Manilla, Nambucca, Nyngan, Orange, Parkes, Queanbeyan, Tamworth, Wellington, Wyong, and Yass.

Health Education is now a most significant tool in public health administration as many of the programmes in public health are directed towards social and behavioural patterns and cultures. It is gratifying to note that the Section directing these activities has been raised to the status of a Division, into which the ancillary services of publicity and nutrition have been incorporated. The Director, Dr J. Krister, was one of the two Australian delegates to the First Western Pacific Conference on Health Education organized by the World Health Organisation and held in Manila.

The Department has assisted the World Health Organisation by making available experts from its staff for specific assignments; accepting World Health Organisation scholars for training and experience, and providing information on various technical matters for incorporation in World Health Organisation publications. I was privileged to be appointed a member, Advisory Committee Public Health Administration of World Health Organisation, and the Department's international status was further acknowledged by this organization in the appointment for two years of Dr Alan Bell, Director, Division of Occupational Health, to one of its most senior positions—Chief Medical Officer of the Unit of Social and Occupational Health.

For the first time no case of poliomyelitis was notified throughout the year. The efficacy of the Salk Campaign needs no further indication. To consolidate this position it has been decided to follow world trend and change from parental immunization with Salk vaccine to oral immunization with Sabin vaccine. This will give even further protection and should ensure the continued eradication of this dreaded disease. When one considers that in 1951 there were 1,528 cases of poliomyelitis with 134 deaths, the disappearance of this disease is a medical miracle, and yet a further advance in the conquest of infectious diseases.

Unfortunately, as one such disease is vanquished others still maintain their prominence. Of these the two most significant are venereal disease and infectious hepatitis. The former reflects a changing social attitude towards sex and morality, against which health and sex education and the conservation of the family structure and influence would appear to be the most immediate and valid approaches to combat this problem in our teenagers and young folk. The figures quoted in the context of the report probably represent only a fraction of the cases occurring, particularly for gonorrhoea. The Australian Medical Association is preparing a report on the situation throughout Australia and its recommendations are awaited with interest.

Infectious hepatitis shows no signs of diminishing and unfortunately, for technical reasons, there is no prospect of effective control. The hope that the virus had been cultivated and that a vaccine might be practicable was groundless, and control still rests on personal and general hygiene.

Finally, before submitting a brief summary of the activities of the various Sections of my Department, I am pleased by the amount of research, teaching, and training which has continued during the years. Despite the demands on expanding services, approximately fifty articles have been published in responsible scientific journals from the Divisions, and the Department is represented on numerous scientific and advisory committees, the details of which appear in the body of the Report.

VITAL STATISTICS

The estimated population of New South Wales at the end of 1966 was 4,266,492. During the year the increase in population by excess of births over deaths was 37,212 by net migration 24,022 making a total increase of 61,234. In 1965 the corresponding figures were 39,120 and 28,902, making a total increase of 68,022. The total number of live births in 1966 was 77,758. The crude birth rate has declined every year over the last five years, from 22.07 per 1,000 mean population in 1961 to 18.37 in 1966. The number of still-births registered was 964 or 1.2 per cent of all births (live and still). There were 40,546 deaths, including 1,490 infant deaths for the year. This corresponds to a crude death rate of 9.58 per 1,000 mean population and to an infantile mortality rate of 19.16 per 1,000 live births. Compared with 1965 the death rate from neoplasms, mostly malignant, showed a rise from 1,369 to 1,419 per million mean population. Deaths from malignant neoplasms of the lung have in recent years shown a rapid rise in both number of cases and rate in both sexes; and in 1966 in males the disease accounted for 26.81 per cent of the total deaths due to malignant diseases.

THE HEALTH DISTRICTS

Metropolitan Health District

The proposed establishment of a new Health District in the western metropolitan area has not yet been implemented so the Metropolitan Health District covers the same area and comprises the same Local Authorities as in 1965.

The population of the District at 30th June, 1966, was 2,525,798, an increase of 49,588 over the figures for 1965. Live births numbered 45,189 and deaths numbered 24,985, giving respective rates of 17.89 and 9.89 per 1,000 mean population. There were 9 maternal deaths and 836 deaths under one year of age giving respective rates of 0.20 and 18.50 per 1,000 live births.

Communicable diseases notifiable under the Public Health Act totalled 3,313 with 105 deaths. Of these infective hepatitis accounted for 2,202 cases and 7 deaths. There were two cases of typhoid fever and one case of diphtheria.

Again, in environmental sanitation, particular attention was given during the year to the problems of disposal of garbage and of water pollution of rivers and ocean beaches. Public, semi-public, and private swimming pools received increased supervision.

The Rural Health Districts

With the exception of the sparsely populated Wentworth and Central Darling Shires, the whole of the State is now divided into Health Districts.

Details of vital statistics and activities of these Health Districts are given by the Medical Officers of Health in their reports. In general, observations are made on the problems associated with the drought which most of the districts are still experiencing, and the continued expansion of activities in environmental sanitation, pure food administration, tuberculosis control, maternal and child welfare. Notification of venereal diseases has improved, and there is evidence that an increase is occurring.

HEALTH INSPECTION

The Health Inspection Branch at Central Administration is responsible to the Metropolitan Medical Officer of Health for the work carried out in the Metropolitan area.

The staff establishment in the Survey Section is now complete, and will allow further surveys to be undertaken in regard to the notification of unhealthy building land.

Six cases of lead poisoning were investigated during the year. In each case the paint work of the dwellings occupied by the patient was found to be in a deteriorated condition and having a high lead content.

A survey of the pet shops was carried out, and approximately 170 premises were inspected. No serious breaches of the Noxious Trades Act were disclosed.

Conferences arranged at Head Office for all departmental Senior Health Inspectors continue to prove to be very useful in keeping officers stationed in the country centres informed of new developments.

PURE FOOD

The Chief Food Inspector reports that from the relatively few prosecutions undertaken against traders for failing to keep their premises clean indicates a satisfactory situation in this aspect of food inspection. The total number of prosecutions and the amount of fines and costs were substantially the same as last year. Insect infestation of premises accounted for sixteen prosecutions.

COMMUNICABLE DISEASES

A table showing the totals of the diseases notified under the Public Health Act will be found on page 16. There was a considerable improvement in the number of cases of communicable diseases. The only disease with an increased total number of cases was infectious hepatitis. There were only four cases of diphtheria with no deaths.

Deaths from notifiable diseases in 1966 number 212. Again the notifiable disease with the highest mortality was staphylococcal pneumonia, but only twelve patients were notified of whom six died, giving a mortality rate of 50 per cent as compared with 93 per cent for 1965.

No notifications from the following infectious diseases were received:

Acute Anterior Poliomyelitis

Cholera

Leprosy (at the end of 1965 five patients remained in isolation at the Prince Henry Hospital)

Plague

Smallpox

Yellow Fever

Anthrax

Staphylococcal Mastitis.

Venereal Diseases

Four thousand four hundred and forty-five cases of gonorrhoea were notified in 1966, an increase of 13.1 per cent over the total for 1965. It is considered this reflects a real rise in incidence rather than a more complete notification of the disease.

Syphilis cases totalled 553, 48 less than that for 1965, a decrease of 8 per cent. The proportion of cases in an infectious stage fell to 60 per cent in 1966 compared with 62 per cent in 1965.

One thousand four hundred and one defaulters were notified in the Metropolitan Health District. Of these 600 (42.8 per cent) remained in default. Fifty-four defaulters were notified in the Newcastle Health District; two in the South Coast Health District, and two in the Riverina Health District.

Tuberculosis

There was a marked decrease in the number of notifications received in 1966 (965) compared with 1965 (1,124). There was a slight increase in the death rate, the reason being due to the significant number of deaths of respiratory cripples whose pulmonary fibrosis and emphysema were resultant upon a past tuberculous infection. It would be correct to state that the majority of those whose death was related to tuberculosis could be claimed only on an indirect relationship.

The incidence of new active cases of tuberculosis is highest in the group 50 years of age and above, and most marked in males.

The greatest source of discovery of all cases was by mass miniature X-rays which total 35.19 per cent, a decrease of 7.61 per cent from the 1965 figure. There was a slight increase in discoveries from private medical practitioners, general hospitals, and gaols. The most noticeable increase in the notification rate is from Chest Clinics, which rose from 15.45 per cent in 1965 to 22.06 per cent in 1966.

The total number of migrants notified during 1966 was 203—136 males and 67 females.

THE GOVERNMENT ANALYST

The number of milk samples examined during the year was 12,002 an increase of 4 per cent. There was a 10 per cent reduction in the percentage of adulterated samples, which is a decided improvement on 1965 figures when the percentage of adulterated samples showed an alarming increase. The percentage of samples showing added water is still over 50 per cent in advance of the 1964 figures. The details of these and other examinations carried out during the year are set out fully in the report of the Government Analyst.

As work has progressed in the Pesticides and Additives Laboratory it has become apparent that the Pesticide work and the Food Additives work will have to be separated for efficient operation. The work in each field is completely unrelated, and both require an extensive background knowledge.

The highlight of the year was the approval of fourteen plants for the fluoridation of water supplies under the control of the Metropolitan Water, Sewerage and Drainage Board. This brings the number of plants approved, but not yet commissioned, to twenty-two.

PRIVATE HOSPITALS

At the end of 1966 in New South Wales there were 156 Private Hospitals with 4,389 beds and 284 cots while Rest Homes totalled 374 with 10,758 beds and 87 cots. Over the last five years there has been an increase of 94 beds in private hospitals and 4,359 beds in Rest Homes. There were 947 inspections made in 1966 compared with 657 in 1965.

DIVISION OF FORENSIC MEDICINE

The number of autopsies performed in 1966 was 2,507 again showing the same gradual increase that is experienced annually. Examinations of criminal assault cases totalled 142, 2 more than in 1965. A detailed analysis of specimens submitted and the number of examinations performed are given in the report of the Director.

During the year two aircraft accidents were investigated in conjunction with the Department of Civil Aviation resulting in the performance of four autopsies. A further two complex investigations were carried out involving a dwelling house fire in which six people perished, and a helicopter crash in the Circular Quay area of Sydney.

Following the acquisition in 1964 of a block of land in Camperdown opposite the University of Sydney, as a proposed site for a new City Morgue and Coroners' Courts, numerous conferences have been held with officers of the Treasury, Public Works Department, Health Department, and Department of the Attorney General and of Justice, and preliminary drawings have been prepared.

HEALTH EDUCATION

In the latter part of the year the steady growth of health education activities of the Department over the past two years culminated in the granting of divisional status to this aspect of preventive medicine.

The Publicity Branch, renamed the Information Services Section, the Nutrition Section, renamed the Nutrition Education Section and the research and training unit were brought together in the re-organization under the control of a Director of Health Education. The first Director is Dr S. J. Krister, formerly Health Educationist to the Department.

Under the guidance of the Health Education Advisory Council, a pilot field project in Health Education of the public was begun in the Ryde area, staffed by a Tutor located at the Ryde Child Health Centre.

The Department took active part in organizing and exhibiting at various exhibitions during the year including Health Week, Royal Easter Show, Warragamba State Fair, International Engineering Show, Waratah Spring Festival, Old Peoples Week. A number of exhibits were entered in country fairs and shows by the Medical Officers of Health in Health Districts.

BUREAU OF MATERNAL AND CHILD HEALTH

By establishing the Bureau in 1965 the Department provided prospective mothers, as well as children with a continuing preventive health service—for the mothers during their pregnancy, labour, and puerperium, and for children from early infancy to school leaving age. There are three Sections, viz., Maternal and Infant Care, Child Health, and Special Services.

Section of Maternal and Infant Care

The Section of Maternal and Infant Care during 1966 continued to maintain established services to mothers and young children while every effort has been made to extend these services to a wider area by building and staffing new Baby Health Centres; increasing medical clinics where necessary, and continuing to investigate causes of maternal and infant mortality and morbidity.

Decentralization of some aspects of the work to Health Districts has been advantageous as it permits of closer contact by the Medical Officer of Health and the Assistant Nurse Inspector with the Baby Health Centre Sisters in the country districts.

Although the low maternal (0.28 per 1,000 live births) and perinatal mortality (26.03 per 1,000 live and still births) rates continue to reflect a high standard of care of mother and infant compared to other countries, a detailed study of the deaths suggests that there are still areas in which improvement can be made. Antenatal care, particularly in country areas, falls below the required standard, and the resultant high prematurity rate is still the major cause of death in the perinatal period.

Six additional new Baby Health Centres were established and 4 were transferred to new premises, and there are now 430 operating in New South Wales, 156 in the metropolitan area and 274 in the rest of the State.

Details of other activities with full statistics of maternal and infant mortality are given in the Section's report.

Section of Child Health

The Section of Child Health is charged with providing preventive health services to children of all ages. In addition, and, as distinct from the role of the School Medical Service, it is responsible for the provision of health checks, similar to those at schools, to pre-school children over the age of two years. Another new function is the medical examination and health education of children at Minda Remand Home on behalf of the Child Welfare Department.

The Child Health Centre at Newcastle commenced to operate. No new metropolitan child health centres were begun during the year, but plans have been drawn for Cabramatta, which will commence in the next financial year.

In 1966 Medical Officers examined 181,049 children, of whom 89,196 were fully examined and 91,853 were reviewed.

Details of other activities are given in the Section's report.

Section of Special Services

The Section provided diagnostic and advisory services for atypical children in the age range from birth to school-leaving. The functions of research, investigations, and in-service training were further developed, and specialized services were made available to an increased number of voluntary organizations, such as the Far West Children's Health Scheme.

On the staff of the Section are specialists from whom advice about children with emotional, developmental, and education problems can be obtained. The services of the Section are available to the other Sections of the Bureau, private medical practitioners, Department of Education, Department of Child Welfare and Social Welfare, and to voluntary bodies concerned with the care of children.

Details are given in the Section's report in connection with its work in speech therapy, hearing defects, in-service training for public health nurses, in special schools for intellectually handicapped children and at Child Guidance Clinics.

MEDICAL EXAMINATION CENTRE

This Centre conducts medical examinations to determine fitness for employment in all State Government Departments except the Police Force and the Department of Government Transport. The Centre arranges examinations in country areas when necessary, and it is responsible for assessment of students' fitness to enter and to continue teacher training courses. Medical examinations are carried out for many other bodies such as the Universities, statutory Boards and Commissions, etc. Other services and statistics are shown in the Centre's report.

DENTAL SERVICES

In February, 1966, you and the Under Secretary, Mr J. D. Rimes, visited New Zealand to investigate the School Dental Service. Unfortunately, the anticipated progress in establishing an equivalent therapeutic programme in New South Wales did not materialize during 1966, due to lack of finance. It is hoped that a start will be made in 1967.

The School Dental Service continued to employ a small number of New Zealand trained dental nurses with complete satisfaction. Their services were particularly noteworthy in the aerial service conducted in conjunction with the Royal Flying Doctor Service, N.S.W. Section, from Broken Hill.

The services of the Dental Division covered a wide area of the State by means of the aerial service and mobile road dental clinics, despite staff shortages which were more noticeable at the end of the final school term. Nevertheless, as a result of an unusual number of recent enquiries regarding employment from dentists, the establishment of the Division will be at full strength at the beginning of 1967.

A new school dental clinic was virtually completed at Tamworth in accommodation made available in the Lands Department building, Fitzroy Street. Plans and specifications were also completed for a new dental clinic in the Infants' School, Moulder Street, Orange, finance already having been made available during the current fiscal year.

The dental services provided in Government Institutions continued satisfactorily. New clinics were completed at Grosvenor Hospital, Summer Hill and Gladesville Psychiatric Hospital. An additional dental officer was made available at the State Penitentiary, improving dental services available to prisoners.

OCCUPATIONAL HEALTH

The Division of Occupational Health, in addition to its medical activities, now consists of three Branches—these are Radiation, Air Pollution Control, and Industrial Hygiene. During the year considerable progress was made towards cleaner air.

Overseas reports of deaths due to bladder carcinogens prompted a survey of rubber workers. As it is unlikely that any carcinogens were used in the rubber trade since 1955, employees who had been employed prior to this time were examined. Results have, so far, been negative. A similar overseas report of lung cancer and mesothelioma of the pleura have indicated the need for surveys into the health of employees in the asbestos trades. These surveys are continuing.

The toxicity of Teflon has been investigated, and whilst Teflon decomposes on heating to release toxic fumes, no hazard is expected from the accidental over-heating of Teflon-coated kitchen utensils. A number of cases of polymer fume fever have occurred due to the inhalation of toxic quantities of Teflon when smoking Teflon-contaminated cigarettes whilst at work.

Cases of chemical pneumonitis have occurred in New South Wales due to the inhalation of toxic cadmium fumes during "silver soldering". As a number of deaths have been reported from the inhalation of cadmium fumes overseas, it is stressed that care should be exercised when carrying out this and similar processes involving the use of cadmium, and that good ventilation and respiratory protection are essential.

Industrial deafness is a disabling and avoidable injury and is seen as one of the Division's growing responsibilities. The Noise Laboratory has been very active during 1966. Industry must be educated concerning the relationship of noise and deafness and hearing conservation programmes are regarded as an essential component of industrial planning. This is an area in which the Division will have to adopt a more vigorous role in the future.

In ergonomics, tenosynovitis continues to occupy much of the Division's attention. This is a common disability which causes considerable economic loss to industry and in most cases is avoidable if proper working methods are adopted.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

The Institute is divided into seven separate departments as follows: Pathological Anatomy and Histology, Haematology, Bacteriology, Virology, Venereal Disease Serology, Clinical Biochemistry, and Exfoliative Cytology.

Administration

The broad administrative structure of The Institute which functioned satisfactorily in the past became progressively strained as the work load grew beyond the levels for which the laboratory and accommodation were originally designed. During the year a complete review of existing procedures was undertaken with a view to reducing the amount of clerical work involved, and speeding the dispatch of reports. Considerable progress was made during the year in the microfilming of records in order to facilitate access to them and also conserve storage space.

The year has seen a further all round expansion in the activities of The Institute of Clinical Pathology and Medical Research. The volume of work done in all departments has continued to increase while the variety of investigations offered has steadily broadened. Many of the investigations now undertaken at The Institute were not previously available in New South Wales or if they were available were restricted to patients attending at a few specialized hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State.

The time might now be opportune to consider the future development of the Clinical Pathology Service provided by The Institute. In seven years the amount of work has increased phenomenally and if the present trend continues, and there is every reason to believe that it will, it is not difficult to envisage a situation where the available laboratory space can no longer accommodate the volume of work. Indeed this situation has already been reached in the Bacteriology department and is rapidly approaching in the departments of Exfoliative Cytology, Biochemistry, and Venereal Disease Serology.

The New South Wales Department of Public Health is now in a position to provide a comprehensive diagnostic laboratory service second to none in this State. That this has come about in so short a period is due in some measure to the excellent facilities provided, but of far greater consequence is the very high quality of the staff which we have been fortunate enough to recruit. They have always reacted with enthusiasm to any proposals aimed at improving the output and quality of the work, and it is to this spirit that the results achieved to date are attributable. That it has been possible to encourage and maintain this enthusiasm is due in no small measure to the co-operation and support of the central administration of the New South Wales Department of Public Health and other Government Departments, notably the Public Service Board, Government Stores Department and Department of Public Works.

The service component of The Institute is now fully operative and flourishing. The far-sighted training programme inaugurated in the early days is now bearing fruit so that the early anxieties over staffing have been dissipated, and it now remains to develop the research activities which have perhaps languished a little because of the necessity to ensure that the other functions—pathology service and training—were first solidly established. Given continuation of the support which we have enjoyed to date, there is now no reason why we should not, in the coming years, make significant contributions of original work which will add further to the reputation which the New South Wales Department of Public Health has built up over the past few years.

Yours faithfully,
C. J. CUMMINS,
Director-General of Public Health.

VITAL STATISTICS

Vital Statistics of New South Wales for the Year 1966

HEALTH DISTRICTS

TABLE I—NUMBERS

Health District	Population at 30th June*	Live Births	Deaths				Still Births
			All ages	Under 1 year	Under 1 month	Under 1 week	
Metropolitan	2,525,798	45,189	24,985	836	634	573	564
Newcastle	500,689	8,863	5,212	160	112	97	107
South Coast	321,928	6,464	2,683	130	90	77	81
North Coast	154,535	2,649	1,367	38	25	24	24
North Western	157,769	3,145	1,306	72	48	46	79
Western	273,164	5,629	2,620	139	87	76	79
Riverina	247,479	5,106	2,054	105	81	78	62
Broken Hill (city only)	30,023	578	261	7	6	6	5
Remainder of State	12,232	135	58	3	2	2	1
Migratory	7,468	..	..	..	..	..	..
New South Wales	4,231,103	77,758	40,546	1,490	1,085	979	964

* Preliminary census figures.

TABLE II—RATES

Health District	Live Births (a)	Deaths				Still Births (c)
		All ages (a)	Under 1 year (b)	Under 1 month (b)	Under 1 week (b)	
Metropolitan	17·89	9·89	18·50	14·03	12·68	12·33
Newcastle	17·70	10·41	18·05	12·64	10·94	11·93
South Coast	20·08	8·33	20·11	13·92	11·92	12·38
North Coast	17·14	8·85	14·35	9·44	9·06	8·98
North Western	19·93	8·28	22·89	15·26	14·67	12·87
Western	20·61	9·59	24·69	15·45	13·50	13·84
Riverina	20·63	8·30	20·56	15·86	15·28	12·00
Broken Hill (city only)	19·25	8·69	12·11	10·38	10·38	8·58
Remainder of State	11·04	4·74	22·22	14·81	14·81	7·35
New South Wales	18·38	9·58	19·16	13·95	12·59	12·25

(a) Per 1,000 of mod-year population.

(b) Per 1,000 live births.

(c) Per 1,000 total births (live and still).

POPULATION

TABLE III—ESTIMATED POPULATION

				At end of 1966	Mean for 1966
Males	...	..	..	2,139,329	2,123,899
Females	...	..	..	2,127,163	2,109,914
Persons	..	..	..	4,266,492	4,233,813

TABLE IV—ELEMENTS OF INCREASE

				1966	1965
Excess of births over deaths	..	..	..	37,212	39,120
Net Migration	..	..	..	24,022	28,902*
Total increase	..	..	..	61,234	68,022*

* These figures have been adjusted in the light of the 1966 census.

TABLE V—BIRTHS

				Live births	Still births
Males	..	..	..	40,178	530
Females	..	..	..	37,580	434
Total	..	..	..	77,758	964

The crude birth rate has declined considerably over the last five years.

TABLE VI—CRUDE BIRTH RATE: 1961-1966

Year				Live births per 1,000 mean population*
1961	..	..	..	22.07
1962	..	..	..	21.44
1963	..	..	..	20.77
1964	..	..	..	19.61
1965	..	..	..	18.72
1966	..	..	..	18.37

* Rates for 1962-1965 have been adjusted because of revised population estimates following the 1966 census.

TABLE VII—DEATHS: 1966

				Sydney Statistical Division*	Reminder of State	N.S.W.
Deaths (all ages)	..	..	Males	13,240	9,214	22,474
			Females	11,874	6,218	18,092
			Persons	25,114	15,432	40,546
Infant deaths	..	..	Males	496	384	880
			Females	342	268	610
			Persons	838	652	1,490

* The new Sydney Statistical Division comprises the Metropolitan Health District and part of the City of Blue Mountains.

TABLE VIII—DEATHS FROM SELECTED CAUSES, 1961-1966

Year					Number of Deaths			Rate per million mean population		
					Males	Females	Persons	Males	Females	Persons
Deaths from Neoplasms, Malignant and Otherwise (I.S.C. 140-239)										
1961	..	..	..	..	2,866	2,465	5,331	1,454	1,268	1,362
1962	..	..	..	..	2,932	2,404	5,336	1,468	1,212	1,340
1963	..	..	..	..	3,101	2,609	5,710	1,524	1,294	1,410
1964	..	..	..	..	3,226	2,646	5,872	1,558	1,290	1,425
1965	..	..	..	..	3,157	2,588	5,745	1,498	1,239	1,369
1966	..	..	..	..	3,332	2,675	6,007	1,569	1,268	1,419
Neoplasms of the Lung, Trachea and Pleura (I.S.C. 162, 163)										
1961	..	..	..	..	626	94	720	318	48	184
1962	..	..	..	..	675	87	762	338	44	191
1963	..	..	..	..	705	104	809	346	52	200
1964	..	..	..	..	830	122	952	401	59	231
1965	..	..	..	..	805	139	944	382	67	225
1966	..	..	..	..	883	120	1,003	416	57	237
Vascular Lesions Affecting Central Nervous System (I.S.C. 330-334)										
1961	..	..	..	..	2,100	2,703	4,803	1,065	1,390	1,227
1962	..	..	..	..	2,186	2,753	4,939	1,095	1,388	1,241
1963	..	..	..	..	2,155	2,908	5,063	1,059	1,442	1,250
1964	..	..	..	..	2,171	2,992	5,163	1,048	1,459	1,253
1965	..	..	..	..	2,273	3,124	5,397	1,078	1,496	1,286
1966	..	..	..	..	2,351	3,208	5,559	1,107	1,520	1,313
Arteriosclerotic and Degenerative Heart Disease (I.S.C. 420-422)										
1961	..	..	..	..	6,626	4,401	11,027	3,361	2,261	2,816
1962	..	..	..	..	7,170	4,784	11,954	3,591	2,412	3,003
1963	..	..	..	..	7,321	4,927	12,248	3,598	2,444	3,023
1964	..	..	..	..	7,710	5,272	12,982	3,723	2,571	3,150
1965	..	..	..	..	7,707	5,276	12,983	3,656	2,527	3,094
1966	..	..	..	..	7,989	5,433	13,422	3,761	2,575	3,170
Pneumonia (I.S.C. 490-493)										
1961	..	..	..	..	589	481	1,070	299	247	273
1962	..	..	..	..	641	561	1,202	321	283	302
1963	..	..	..	..	729	499	1,228	358	248	303
1964	..	..	..	..	828	653	1,481	400	318	359
1965	..	..	..	..	806	570	1,376	382	273	328
1966	..	..	..	..	898	691	1,589	423	328	375
Bronchitis (I.S.C. 500-502)										
1961	..	..	..	..	517	91	608	262	47	155
1962	..	..	..	..	664	140	804	333	71	202
1963	..	..	..	..	653	130	783	321	64	193
1964	..	..	..	..	762	138	900	368	67	218
1965	..	..	..	..	704	157	861	334	75	205
1966	..	..	..	..	858	173	1,031	404	82	244
Motor Vehicle Accidents (I.S.C. E180-E835)										
1961	..	..	..	..	703	205	908	357	105	232
1962	..	..	..	..	708	234	942	335	118	237
1963	..	..	..	..	693	221	914	341	110	226
1964	..	..	..	..	762	277	1,039	368	135	252
1965	..	..	..	..	851	315	1,166	404	151	278
1966	..	..	..	..	817	328	1,145	385	155	270
Accidents other than Motor Vehicle Accidents (I.S.C. E800-802, E840-E962)										
1961	..	..	..	..	738	364	1,102	374	187	281
1962	..	..	..	..	679	432	1,129	349	218	284
1963	..	..	..	..	664	361	1,025	326	179	253
1964	..	..	..	..	754	460	1,214	364	224	295
1965	..	..	..	..	745	398	1,143	353	191	272
1966	..	..	..	..	710	417	1,127	334	198	266

TABLE IX—CAUSES OF DEATH, NEW SOUTH WALES, 1966

Class	I.S.C. Nos	Cause of Death	Number of Deaths			Rate per Million of Mean Population		
			Males	Females	Persons	Males	Females	Persons
I	001-138	Infective and parasitic diseases.. .. .	143	91	234	67	43	55
II	140-239	Neoplasms	3,332	2,675	6,007	1,569	1,268	1,419
III	240-299	Allergic, endocrine system, metabolic and nutritional diseases.	406	488	894	191	231	211
IV	290-299	Diseases of the blood and blood forming organs ..	55	72	127	26	34	30
V	300-326	Mental, psychoneurotic and personality disorders ..	105	61	166	49	29	39
VI	330-398	Diseases of the nervous system and sense organs ..	2,568	3,376	5,944	1,209	1,600	1,404
VII	400-468	Diseases of the circulatory system	9,842	7,617	17,459	4,634	3,610	4,124
VIII	470-527	Diseases of the respiratory system	2,031	1,011	3,042	956	479	719
IX	530-587	Diseases of the digestive system	622	454	1,076	293	215	254
X	590-637	Diseases of the genito-urinary system.. .. .	473	463	936	223	219	221
XI	640-689	Deliveries and complications of pregnancy, childbirth and puerperium.	..	22	22	..	10	5
XII	690-716	Diseases of the skin and cellular tissue	13	20	33	6	9	8
XIII	720-749	Diseases of the bones and organs of movement ..	36	73	109	17	35	26
XIV	750-759	Congenital malformations	203	159	362	96	75	86
XV	760-776	Certain diseases of early infancy	523	361	884	246	171	209
XVI	780-795	Symptoms, senility and ill-defined conditions ..	102	136	238	48	64	56
XVII	E800-E999	Accidents, poisonings and violence	2,000	1,013	3,013	942	480	712
	001-E999	All Causes	22,454	18,092	40,546	10,572	8,575	9,577

TABLE X—CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1966

I.S.C. Nos	Cause of Death	Number of Deaths			Rate per 1,000 Live Births		
		Males	Females	Persons	Males	Females	Persons
001-138	Infective and parasitic diseases.. .. .	11	11	22	·26	·30	·28
340	Meningitis, except meningococcal and tuberculous ..	9	8	17	·22	·21	·22
490-493	Pneumonia, age 4 weeks and over	57	55	112	1·42	1·46	1·44
500-502	Bronchitis	5	6	11	·12	·16	·14
571	Gastro-enteritis and colitis, except uncerative, age 4 weeks and over.	21	8	29	·52	·21	·37
750-759	Congenital malformations	142	90	232	3·53	2·39	2·98
760, 761	Birth injury *W	51	35	86	1·27	·93	1·11
	†I	64	45	109	1·59	1·20	1·40
762	Postnatal asphyxia and atelectasis W	25	26	51	·62	·69	·66
	I	51	13	64	1·27	·35	·82
763	Pneumonia of newborn W	17	9	26	·42	·24	·33
	I	8	2	10	·20	·05	·13
764	Diarrhoea of newborn W	4	..	4	·10	..	·05
	I	1	1	2	·02	·03	·03
765-773	Other diseases of early infancy W	43	44	87	1·07	1·17	1·12
	I	74	37	111	1·84	·98	1·43
774	Immaturity with mention of any other subsidiary condition.	4	2	6	·10	·05	·08
776	Immaturity, unqualified	181	147	328	4·50	3·91	4·22
Residue of 140-795	All other causes, except accidents, poisonings, and violence.	67	41	108	1·67	1·09	1·39
E800-E999	Accidents, poisonings, and violence	45	30	75	1·12	·80	·96
	All causes	880	610	1,490	21·90	16·23	19·16

* Without mention of immaturity, 4th digit ·0-·4.
† With immaturity, 4th digit ·5-·9.

NOTIFIABLE INFECTIOUS DISEASES RECORDED IN NEW SOUTH WALES DURING THE YEAR 1966 UNDER THE PUBLIC HEALTH ACT, 1902-1966, CASES AND DEATHS
CLASSIFIED BY HEALTH DISTRICTS, COMPARED WITH 1965 TOTALS

Health Districts	Population 30th June, 1966 (thousands)*	Arbovirus Disease (including Dengue)†		Brucellosis		Diphtheria		Infantile Diarrhoea		Infectious Hepatitis		Leptospirosis		Ornithosis		Paratyphoid Fever		Tuberculosis			
		C. D.		C. D.		C. D.		C. D.		C. D.		C. D.		C. D.		C. D.		New Cases		Reacti- vated	D.
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.				
Metropolitan	2,526	..	..	2	..	1	..	185	27	2,202	7	..	..	..	..	1	1	609	36	57	
Newcastle	501	..	..	..	..	3	..	29	7	528	2	1	..	..	..	..	..	72	4	15	
South Coast	322	..	..	4	..	..	..	10	2	498	2	..	..	1	..	..	..	89	5	9	
North Coast	155	..	..	1	..	..	..	12	2	265	2	1	..	..	..	..	..	11	..	..
Western ..	273	..	..	2	..	..	..	82	10	315	..	1	..	..	..	..	..	49	2	..	
North Western	158	..	..	..	..	..	..	46	7	135	1	1	..	..	..	..	..	43	1	6	
Riverina ..	247	..	..	4	..	..	..	25	1	199	4	..	..	..	..	..	..	27	1	2	
Broken Hill	30	1	..	..	..	..	..	..	..	46	..	..	..	..	..	..	..	8	..	2	
Remainder of State	12	..	..	..	..	..	..	1	1	3	..	..	..	..	..	..	..	7	1	..	
Total New South Wales	4,231	1	Nil	13	Nil	4	Nil	390	57	4,191	18	4	Nil	1	Nil	1	Nil	915	50	94	
1965	4,170	Nil	Nil	20	Nil	11	1	695	70	3,327	17	14	Nil	2	Nil	Nil	Nil	1,047	99	89	

Health Districts	Infectious Diseases Notifiable from 27th May, 1966										The following notifiable infectious disease was not recorded in 1966: Anthrax.		
	Typhoid Fever			Typhus Fever			Virus Encephalitis			Totals for 1965			
	C.		D.	C.		D.	C.		D.	C.		D.	
	The following notifiable infectious diseases were not recorded in 1966												
Health Districts													
Hydatid Disease			Malaria			Q Fever			Tetanus				
C.			D.	C.	D.	C.	D.	C.	D.	C.	D.		
Metropolitan		
Newcastle		
South Coast		
North Coast		
Western		
North Western		
Riverina		
Broken Hill		
Remainder of State		
Total New South Wales	4	Nil	1	Nil	2	Nil	83	10	5	Nil	3		
1965	5	Nil	..	Nil	..	Nil	96	11	5	Nil	..		

Health Districts	INFECTIOUS DISEASES NOTIFIABLE UNTIL 26 MAY, 1966															
	Ancylostomiasis		Ascariasis		Meningococcal Infection		Puerperal Fever		Rheumatic Fever		Scarlet Fever		Staphylococcal Pneumonia		Staph. diseases in Infants under 4 weeks of age	
	C. D.		C. D.		C. D.		C. D.		C. D.		C. D.		C. D.		C. D.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan	5	..	1	..	6	1	16	3	120	..	4	2	96	..	1	..
Newcastle	..	..	14	..	4	..	5	1	21	..	4	2	139	..	..	..
South Coast	..	..	3	..	1	..	2	..	55	..	..	..	13	..	..	..
North Coast	1	..	3	..	3	..	10	1	3	..	..	..	19	..	..	..
Western ..	..	..	1	..	..	..	5	1	55	..	2	1	13	..	..	..
North Western	..	..	1	..	1	..	3	..	32	..	1	1	8	..	..	..
Riverina ..	..	..	1	..	1	..	..	..	16	..	1	..	15	..	..	..
Broken Hill	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Remainder of State	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total 1st January-26th May	6	Nil	24	2	13	4	41	6	302	Nil	12	6	304	Nil	1	Nil
New South Wales (all)	52	Nil	102	Nil	45	13	62	8	619	Nil	37	34	1,141	Nil	1	Nil

* Preliminary census figures.

† Notifiable as dengue prior to 27th May, 1966.

COMMUNICABLE DISEASES

Division of Epidemiology

Director: H. C. Johnston, M.B., B.S., D.P.H.

Location: 93 Macquarie Street, Sydney.

Under the direction of the Commissioner, Venereal Diseases Act 1918/1963, the Division is responsible for the administration of that Act, and also conducts the Departmental venereal diseases clinic for males. The Division's establishment provides for three medical officers in addition to the Director, together with clinic attendants and clerical staff.

Dr J. P. Barry, who had been a medical officer in the clinic for nineteen years, resigned in August because of ill health.

During the year the Director was a member of the N.S.W. State Committee and the Federal Co-ordinating Committee appointed by the Australian Medical Association to report on the problem of venereal disease in Australia.

The Director participated in a short course of lectures on venereal disease at the University of N.S.W. whose medical students now attend the clinic for tuition in the clinical and practical management of patients.

This year's total of notifications of gonorrhoea was 4,445, compared with that of 3,929 in 1965 and the crude notification rate rose to 105 per 100,000 mean population; the rate in 1965 was 94. It is considered that this reflects a real rise in incidence rather than more complete notification of the disease; e.g. 1865 cases of gonorrhoea were seen in the Divisional clinic, compared with 1643 last year.

The total number of cases of syphilis notified this year was 553, compared with 601 in 1965. The proportion of cases in an infectious stage fell to 60 per cent compared with 62 per cent in 1965.

Divisional Clinic

This clinic is for males only and in 1966 of all the reported cases in males for the whole State 49.3 per cent of the gonorrhoea cases and 25.9 per cent of the syphilis cases were treated in the clinic.

7442 patients presented themselves at the clinic for examination and diagnosis during the year; of these 1966 (26.4 per cent) were found to be suffering from notifiable venereal diseases.

The numbers of cases of non-gonococcal urethritis (which is not notifiable) treated in the clinic are shown for three years:

No. of cases	1964	1965	1966
(N.G.U.)	1786	1918	2238

The total number of attendances at the clinic was 47,191. Included in this total are 26,294 attendances for prophylaxis. 701 seamen were registered during the year compared with 911 in 1965.

VENEREAL DISEASES ACT, 1918-1963

4827 notifications of venereal diseases were received during the year. A further 181 cases, diagnosed in the Division but not notified subsequently, have been added to the total, making this 5008 for the year.

Table 1: Shows the cases of syphilis and gonorrhoea by Health Districts and source of report.

Table 2: Shows age and sex distribution of all venereal diseases for the year.

Table 3: Shows the age-sex grouping of syphilis cases by stage of disease.

Gonorrhoea

4,445 cases were recorded, an increase of 13.1 per cent over the total for 1965.

3892 cases (87.6 per cent) were from the Metropolitan Health District. The proportion of cases notified by private practitioners was 23.9 per cent. The sex ratio of cases was 5.7 males to 1 female.

The proportions of cases occurring in the age-group 15 to 19 years increased in females but was reduced for males compared with those of the previous year.

Percentage of cases in age-group 15-19

						1964	1965	1966
						per cent	per cent	per cent
Males	..	..	..	..	..	26·6	24·8	22·8
Females	..	..	..	..	..	40·9	44·3	44·5

Syphilis

553 cases were recorded of which 333 (60 per cent) were in an early infectious stage. The total for the year was 48 less than that for 1965, a decrease of 8 per cent.

453 (81·9 per cent) of the cases were from the metropolitan area. The proportion of the total notified by private practitioners was 19 per cent.

The sex ratio of syphilis cases was 2·1 males to 1 female.

The proportions of cases in the 15-19 age-group were:

						1964	1965	1966
						per cent	per cent	per cent
Males	..	..	..	..	..	11·7	7	4·3
Females	..	..	..	..	..	18·5	15·7	19

Notification Rates

The crude notification rates per 100,000 mean population are shown for three years:

						1964	1965	1966
Gonorrhoea: Whole State						96	94	105
Metropolitan						134	131	154
Syphilis: Whole State						10	14	13
Metropolitan						10	17	18

Age-specific notification rates per 100,000 population

				Age Group	1965			1966		
					M.	F.	P.	M.	F.	P.
Gonorrhoea	..	..	15-19	432	149	295	443	159	305
			20-24	785	111	458	850	134	503	
			25-29	410	46	233	481	35	264	
Syphilis	..	..	15-19	14	19	16	8	18	13
			20-24	44	34	39	50	33	42	
			25-29	52	17	35	49	18	34	

Notification of persons probably responsible for infection. Sec.9(2A).

Metropolitan Health District

117 persons (22 males, 95 females) were notified as being probably responsible for cases of venereal disease. Of these the Divisional Clinic notified 62 women. These were all medically examined; 43 at the Rachel Forster Hospital, 14 by private practitioners, and 5 at other hospitals. The 43 women examined at the Rachel Forster Hospital were all treated, although the diagnosis of gonorrhoea was established in 20 of them only. Hospitals and medical practitioners in private practice notified a further 22 males and 33 females. Of these 11 males and 18 females were medically examined; the names of 2 males and 2 females residing outside the metropolitan district were referred to the appropriate Medical Officer of Health, while 9 males and 13 females could not be traced. The number of persons notified under the above Section who were not traced in the metropolitan area was 22 out of 113 (19·5 per cent).

Newcastle Health District

Three females were notified; all attended the Royal Newcastle Hospital in response to a letter from the Medical Officer of Health.

South Coast Health District

One female was notified. The Medical Officer of Health reported that no action was taken.

North Coast Health District

Six males and 21 females were notified. Of these 1 male and 7 females were referred to other Health Districts; all the remainder were medically examined.

North-Western Health District

The Medical Officer of Health reported as follows:

								<i>Males</i>	<i>Females</i>
Investigated:	..	..	..	..	..	..	..	4	4
Residing in other Health Districts:				..	..	..	..	2	3
Attended for treatment:	..	..	..	..	..	..	..	1	4
Source known but not treated or investigated:	..		..		..	..	..	—	1

Riverina Health District

Eleven males and 5 females were notified. Twelve of these were treated, the four others being referred to the Division and other Medical Officers of Health.

Western Health District

Two males and 8 females were notified. All these persons were written to, and asked to attend their own doctor or local hospital for examination and treatment, but no further follow-up was done.

Under Section 9A(1)

A notice in writing for a compulsory medical examination was served on one female in the metropolitan area. The notice was obeyed.

Notification of Default (Sec. 10)

One thousand four hundred and one defaulters were notified from the Metropolitan Health District. Of these 600 (42.8 per cent) remained in default.

Fifty-four defaulters were notified in the Newcastle Health District; 2 in the South Coast Health District; and 2 in the Riverina Health District.

Prosecutions*Under Section 5 (failure to continue treatment)*

Summonses were issued against 773 persons compared with 692 in 1965. Fifteen of these persons were in the Newcastle Health District, the remainder being in the Metropolitan area.

Five males were arrested, two of whom were fined a total of \$52. The other three completed treatment after being placed on verbal recognizance. One female was arrested, fined \$22, and remanded in custody until treatment was completed.

TABLE 1
(Figures for 1965 are shown in brackets)

Source of Report	Gonorrhoea		Syphilis	
	Male	Female	Male	Female
Navy	121 (169)	....	6 (2)	....
Army	60 (46)	....	1 (—)	....
Air Force	2 (2)	....	— (—)	....
Metropolitan H.D.— Private Practitioners	712 (582)	92 (141)	35 (35)	13 (13)
Hospitals	545 (388)	487 (367)	75 (46)	60 (81)
Divisional Clinic	1,865 (1,643)	— (—)	97 (119)	— (—)
Newcastle H.D.— Private Practitioners	53 (49)	7 (11)	3 (4)	7 (7)
Hospitals	240 (248)	44 (16)	14 (15)	8 (6)
South Coast H.D.— Private Practitioners	20 (10)	3 (—)	4 (2)	4 (5)
Hospitals	9 (5)	— (1)	5 (8)	1 (5)
North Coast H.D.— Private Practitioners	38 (43)	5 (14)	4 (4)	4 (8)
Hospitals	— (8)	— (—)	— (—)	— (—)
North Western H.D.— Private Practitioners	28 (28)	9 (8)	4 (4)	1 (1)
Hospitals	— (3)	— (—)	— (—)	— (—)
Western H.D.— Private Practitioners	47 (66)	5 (19)	12 (45)	6 (25)
Hospitals	— (—)	— (—)	3 (4)	1 (4)
Riverina H.D.— Private Practitioners	29 (2)	5 (2)	4 (—)	2 (1)
Hospitals	1 (—)	— (—)	1 (—)	3 (—)
Broken Hill (City only) Private Practitioners	3 (4)	2 (1)	— (—)	— (—)
Hospitals	— (10)	1 (5)	— (1)	— (—)
Remainder of State Private Practitioners	4 (4)	— (—)	1 (6)	1 (9)
Hospitals	— (4)	— (1)	— (—)	— (1)
Diagnosed in Division but not notified	8 (8)	— (21)	105 (90)	68 (50)
Total	3,785 (3,322)	660 (607)	374 (385)	179 (216)

TABLE II—CASES OF VENEREAL DISEASE NOTIFIED DURING 1966 BY DISEASE, AGE AND SEX

	0-14		15-19		20-24		25-29		30-39		40-49		50-59		60-69		70 and over		Age not Stated		Totals			Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Gonorrhoea ..	+2	31*	862	294	1402	208	691	48	538	44	192	19	65	7	12	..	1	..	20	9	3785	660	4445	
Syphilis ..	3	..	16	34	82	52	71	25	89	21	41	15	46	10	18	2	4	13	4	13	374	179	553	
Chancroid ..	..	..	..	..	2	..	..	..	2	..	..	..	1	..	..	..	..	..	1	..	6	..	6
Lymphogranuloma ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Granuloma Inguinale ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gonorrhoeal Ophthalmia ..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	..
Totals ..	7	33	878	328	1486	260	762	73	629	65	233	34	112	17	30	7	5	2	25	22	4167	841	5008	

* In this total—16 girls were aged 14
7 girls were aged 13
1 girl was aged 12
1 girl was aged 6
1 girl was aged 5
4 girls were aged 4
1 girl was aged 1

+ In this total— 1 boy was aged 14
1 boy was aged 5

TABLE III—SYPHILIS: AGE-SEX GROUPING BY STAGE OF DISEASE

	0-14		15-19		20-24		25-29		30-39		40-49		50-59		60-69		70 and over		Not Stated		Totals		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Primary...	1*	..	11	11	50	10	34	4	37	2	17	4	12	2	1	..	..	..	2	163	35	198
Secondary ..	..	..	3	8	10	7	11	4	19	5	4	2	4	..	3	..	..	..	3	55	30	85
Latent 1st Year ..	..	..	..	8	8	9	8	4	4	2	1	2	3	..	..	..	..	..	..	25	25	50
Cardio-vascular ..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	6	1	7
C.N.S. ...	..	..	..	..	..	..	..	..	5	..	1	1	9	4	8	2	..	..	..	24	8	32
All other Late and Latent ..	..	..	2	7	13	26	17	13	22	11	18	6	18	3	3	3	3	1	7	98	77	175
Congenital under 1 year of age	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Congenital over 1 year of age	1	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2	3	5
Totals ..	3	..	16	34	82	52	71	25	89	21	41	15	46	10	18	7	4	2	4	13	374	179	553

* Aged 1 year notified in Western Health District.

Hansen’s Disease (Leprosy)

On 1st January, 1966, six patients, consisting of 3 males and 3 females, remained in hospital isolation. There were 15 listed patients.

Isolated at The Prince Henry Hospital

Number on 1st January, 1966..	..	..	..	..	..	..	6
Admitted during the year	..	..	..	..	..	..	Nil
Re-admitted	..	..	..	..	..	..	2
Discharged	..	..	..	..	..	..	3
Absconded	..	..	..	..	..	..	Nil
Number remaining in isolation on 31st December, 1966	..	..	..	..	..	..	5

Distributed under nationalities, the following table shows the movements of patients during the year.

	Admitted	Re-admitted	Discharged	Died	Remaining in at 31st December, 1966
Whites of European descent—					
Australian	1	..	2
Maltese	1	1	..	..
Coloured patients—					
Aboriginal	1	1	..	1
Indian	1
Chinese	1
Others
Totals	2	3	..	5

Repatriation General Hospital

No patients remain in the hospital, 1 male Australian was discharged during the year.

Conditionally Discharged

One male Australian. There are 15 listed patients for New South Wales as on 31st December, 1966.

Both in- and out-patients with Hansen’s Disease have available the resources of a large general hospital, together with the services of consultants in tropical medicine. The patients provide important clinical material for the training of students, resident medical officers and post-graduates in the various aspects of diagnosis and treatment of this disease.

A close liaison is maintained by the Department with the Physician in Charge of the Infectious Diseases Divisions, The Prince Henry Hospital, and the Professor in Charge of Tropical Medicines at the School of Public Health and Tropical Medicine on all matters concerning the care and control of the patients.

Poliomyelitis

Medical Officer-in-Charge: J. R. B. BEAUMONT, B.Sc., M.B., B.S., D.A., F.F.A.R.A.C.S.

Location: Formerly 697 George Street, Sydney. As from 28th April, 1967, 15 Phillip Street, Sydney.

Function

This Section undertakes the distribution of Salk poliomyelitis vaccine in New South Wales to local health authorities for organized vaccination campaigns and to private medical practitioners for individual patient vaccination.

It also conducts a Poliomyelitis Immunization Centre in the Sydney metropolitan area.

Staff

One clerk, one office assistant.

The only change in staff during the year was the retirement of Dr R. W. D. Maxwell, Medical Officer in Charge, who was succeeded by Dr J. R. B. Beaumont.

Incidence of Poliomyelitis.

The year ended 31st December, 1966, has been a remarkable year as regards the incidence of poliomyelitis. There has not been a confirmed case of poliomyelitis although four notifications of suspected cases were received. The last case of polio occurred in June, 1965.

From an incidence of 177 cases with 13 deaths in the 1962 epidemic year, the incidence in 1966 is nil. It is now over four years since a death from poliomyelitis occurred. The last such death was in May 1962.

The following table shows the poliomyelitis situation in New South Wales over the three-year period to the end of 1966.

Year	Cases	Deaths
1964	2	—
1965	3	—
1966	—	—

Quantities of Poliomyelitis vaccine distributed to local authorities, private medical practitioners and used at the Immunization Centre during 1966, as compared with the previous three years, were as follows:

	1963	1964	1965	1966
	Doses	Doses	Doses	Doses
Local authorities and medical practitioners ..	788,318	570,352	415,643	428,594
Immunization Centre	22,625	12,946	4,130	2,876
Totals	810,943	583,298	419,773	431,470

The amount of vaccine issued has now become static following the diminished demand of 1964 and 1965. Ample supplies of poliovirus vaccine have been available throughout the year.

HISTORY OF SALK VACCINATION IN NEW SOUTH WALES

In November, 1955, following the development of Salk poliovirus vaccine by Jonas Salk in the United States of America in 1953, the New South Wales Government agreed to co-operate with the Commonwealth Government in the vaccination of children against poliomyelitis by the use of Salk Vaccine to be produced at the Commonwealth Serum Laboratories, Parkville, Melbourne. The Commonwealth Government undertook to supply poliovirus vaccine free of charge, and the State Government accepted the responsibility of the other costs of the campaign and its general supervision.

The State Department of Public Health which directed the campaign arranged for Local Government Authorities to conduct the poliomyelitis vaccination clinics in the areas and to provide Medical and other staff for such clinics. The first group to be vaccinated were those consisting of children under 15 years of age and persons at special risk to the disease. The Local Government Authorities were permitted to make a small charge for vaccination, except where hardship would be caused. The Department undertook to meet the cost not covered by these charges. No child was to be vaccinated without the consent of parent or guardian. Supplies of vaccine were first distributed to Local Government Authorities in the Sydney metropolitan area, Newcastle, and Greater Wollongong and later, in August, 1956, to authorities throughout the rest of the State. At the commencement of the campaign, the Blood Transfusion Services of the New South Wales Division of the Australian Red Cross Society undertook the preparation and sterilization of all equipment required, and was reimbursed for the expenditure incurred. This arrangement was, however, discontinued at the end of 1960, when the local authorities were required to provide their own equipment and materials and for necessary sterilization.

Since the beginning of the campaign, all cases and suspected cases of poliomyelitis have been investigated by the Surveillance Committee set up by the National Health and Medical Research Council.

In the latter part of 1958, the poliomyelitis vaccination campaign was extended to include a further group of persons from 15–40 years of age. Subsequently, the campaign was further extended to include persons of any age without limitation—provided that poliomyelitis vaccination should not be commenced before the age of six months.

Local authorities are still reimbursed for financial loss occurring in vaccination of children up to 15 years of age, but not for any loss incurred in adult vaccination.

At the end of 1960, as a further extension of the campaign, poliovirus vaccine was made available to medical practitioners for use in private practice.

Poliovirus (Salk), produced at the Commonwealth Serum Laboratories, has been used throughout the campaign, although in 1960, owing to a serious shortage of vaccine, it became necessary to introduce a quantity of imported Canadian vaccine, prepared at the Connaught Laboratories in Toronto, and later vaccine prepared at the Glaxo Laboratories in the United Kingdom. The full course of poliovirus vaccination consists of four injections at successive minimum intervals of four weeks, seven months, and twelve months.

Originally three injections were advised, but a fourth injection was introduced in August, 1962. Overseas countries had recommended a fourth dose and since the Queensland epidemic in 1961–62, the National Health and Medical Research Council recommended this fourth dose for Australia also, to be given to people who received a third injection twelve months or more previously. In addition, the potency of the type 3 component of the vaccine was increased.

A quadruple antigen (for simultaneous immunization against poliomyelitis, whooping cough, diphtheria, and tetanus) was introduced early in 1961 and was used for a few months but further production of this antigen was then discontinued.

At 31st December, 1960, 4,587,309 injections had been given since the commencement of the campaign and 4,891,698 doses of vaccine had been issued, that is a loss of 6 per cent of vaccine over injections given, which is not excessive in a vaccine of this type requiring refrigeration for storage to maintain its potency.

Central records of injections given through the State were discontinued on 31st March, 1961, and the figures in the attached table showing quantities of vaccine issued provide an indication of the further progress of the campaign. These figures show the very considerable intensification of the campaign which commenced at the beginning of 1962 when normal supplies of vaccine were resumed after a year of serious shortage.

In February, 1962, to cope with the public demand for vaccination, the Departmental Vaccination Clinic at the Immunization Centre was extended to five days a week, instead of once a week as previously, peak attendances being reached when over 1,000 persons received injections over a one-day working session of 5½ hours and over 4,000 persons received injections in one week of five working days.

During 1961–62 an outbreak of poliomyelitis occurred with a total of 375 cases, the first resurgence of the disease since the dramatic fall in incidence following the commencement of the poliomyelitis vaccination campaign.

Incidence of Poliomyelitis in New South Wales

TABLE I—POLIOMYELITIS IN NEW SOUTH WALES, 1957 TO 1966

Deaths shown in parenthesis								<i>No. of Cases</i>
<i>Year</i>								
1957	..	..	..	..	..	..	..	44 (4)
1958	..	..	..	..	..	..	..	8
1959	..	..	..	..	..	..	..	18 (2)
1960	..	..	..	..	..	..	..	8 (2)
1961	..	..	..	..	..	..	..	198 (12)
1962	..	..	..	..	..	..	..	177 (14)
1963	..	..	..	..	..	..	..	3
1964	..	..	..	..	..	..	..	2
1965	..	..	..	..	..	..	..	3
1966	..	..	..	..	..	..	..	0
Total	..	..	..	..	..	..	..	461
(Deaths—34)								

Summary

The year 1966 has been a remarkable year as regards the incidence of poliomyelitis. Although four notifications were received of suspected cases, none were confirmed. During the lean years of low incidence of poliomyelitis, it is most difficult to convince the public of the continued need for protection by vaccination if further outbreaks are to be avoided. The publicity campaign of 1964 did not produce any appreciable effect on the rate of vaccination against poliomyelitis. The continued co-operation of all in carrying out a vaccination campaign is necessary.

Epidemic of 1961-62

As will be seen from Table E, the year 1961 began with the occurrence of only two cases of poliomyelitis over the first four months, continuing the same pattern of low incidence as in previous years subsequent to the commencement of the poliomyelitis vaccination campaign. The first indication of any disturbing situation appeared in May, when cases commenced to occur in steadily increasing numbers in the Wollongong area and nearby localities on the South Coast. The rise in incidence of cases in this area continued steeply to September, when the peak of a brisk local outbreak was reached, followed by an equally rapid decline. This local outbreak in the Wollongong and South Coast area preceded an extensive spread of the disease throughout the nearby populous area of the capital city of Sydney, and a later scatter throughout the State. The case mortality in the initial outbreak in the South Coast area was 14.5 per cent, as against an overall 5.3 per cent for all other cases occurring throughout the rest of the State.

The first cases for the year to occur in the Sydney area began to appear in July. There was at first only a small but steady rise in the number of cases over succeeding months, largely in the southern and western suburbs, but in November there was an almost explosive spread throughout the whole metropolitan area. This outbreak in the Sydney area reached its peak over the turn of the year, declined steeply over the first quarter of 1962, and then subsided quite abruptly. Cases occurring in the Sydney area accounted for 57.4 per cent of the total for the State (this figure merely reflecting the proportion of the State population within the Sydney area), with a case mortality of 4.2 per cent.

There was no particular indication of any significant further spread of the disease beyond the Sydney area until November of 1961, when there was a sharp increase in the number of cases occurring in other parts of the State. These cases were widely scattered throughout the State with only a few instances of small local aggregations of a few cases. As a minor terminal incident, a small group of cases occurred in the Newcastle area, with the maximum incidence over the first quarter of 1962, after which the whole outbreak throughout the entire State subsided with notable abruptness, only five further cases of poliomyelitis occurring anywhere in New South Wales over the last eight months of the year. The last death in 1962 occurred in May.

Considered as a whole, this outbreak in New South Wales had its origin at the beginning of the Winter of 1961, reached its peak over the following Summer, and came to a sudden end in mid-Autumn of 1962. Study of the attack rates in the fully vaccinated as compared with unvaccinated persons in the 375 cases which occurred over the 1961-62 period, which included the epidemic, showed the Salk vaccine to have a protection rate of up to 95 per cent in the more susceptible age group up to 20 years of age, reaching as high as 98 per cent in the children up to 10 years of age.

TABLE E—NOTIFIED CASES BY YEAR AND MONTH OF ONSET

1961	January	...	..	..	..	..	..	1	
	February	...	..	..	..	..	..	..
	March	...	..	..	..	..	..	..
	April	..	..	..	..	..	..	1	
	May	..	..	..	..	..	..	3	
	June	..	..	..	..	..	..	4	(1)
	July	..	..	..	..	..	..	11	(2)
	August	..	..	..	..	..	..	16	(1)
	September	..	..	..	..	..	..	21	(3)
	October	..	..	..	..	..	..	24	
	November	..	..	..	..	..	..	60	(3)
	December	..	..	..	..	..	..	57	(2)
Total, 1961		..	..	..	..	..	..	198	(12)
1962	January	..	..	..	..	..	..	65	(2)
	February	..	..	..	..	..	..	55	(4)
	March	..	..	..	..	..	..	46	(5)
	April	..	..	..	..	..	..	6	(1)
	May	..	..	..	..	..	..	2	(1)
	June	..	..	..	..	..	..	..
	July	..	..	..	..	..	..	1	
	August	..	..	..	..	..	..	..
	September	..	..	..	..	..	..	..
	October	..	..	..	..	..	..	1	
	November	..	..	..	..	..	..	1	
	December	..	..	..	..	..	..	..
Total, 1962		..	..	..	..	..	..	177	(13)
Grand Total		..	..	..	..	..	..	375	(25)

Deaths shown in parenthesis.

During the epidemic 375 cases occurred predominantly type 1 poliovirus with 25 deaths. Some of the type 3 cases in northern New South Wales came from Queensland.

In Queensland the epidemic that occurred at the same time was predominantly type 3 poliovirus. A large proportion of the Queensland type 1 cases came from New South Wales.

POLIOMYELITIS VACCINE INJECTIONS AND DOSES 1956-1966

Events	Year	Injections	Doses	Total
Given to 15-40 year group July, 1958.	1956	825,295	.....	825,295
	1957	557,614	.....	1,382,909
	1958	1,946,941	.....	3,484,062
	1959	869,910	.....	4,097,817
	1960	489,942	.....	4,587,309
Vaccine issued to doctors 23-11-60.	During 1956-60 4,587,309 injections were given and 4,891,698 doses were issued, i.e. 6 per cent loss.			
Shortage of vaccine December 1960 to July, 1961.	} 1961	Returns of injections not required after 31-3-61.	298,339	298,339
Daily Clinic 2-2-62, 4th dose 15-8-62.		1962 71,200 at Centre.	1,962,811	2,260,103
One day clinic 4-6-64	1963	22,625 at Centre.	788,438	3,048,541
	1964	12,946 at Centre.	569,859	3,618,400
	1965	4,438	415,643	4,034,043
	1966	2,876	428,594	4,462,637
		Total doses issued 1956-1960		4,891,698
		Total doses issued 1956-1966		9,354,335

Tuberculosis Division

Director: K. W. H. HARRIS, E.D., M.B., B.S., D.P.H., F.C.C.P.

Location: 86-88 George Street North (Headquarters) and 697 George Street West, Sydney (X-ray Clinic)

FUNCTION

The Division of Tuberculosis is responsible for the planning and supervision of the Anti-Tuberculosis Campaign in New South Wales. In addition, it participates in the campaign by mass x-ray surveys; the frequency of these surveys is related to the area incidence of tuberculosis. As the incidence lessens and the frequency decreases these surveys are being replaced gradually by an increase of Radiological Surveys of Special Groups. This latter should reach its peak in about five years. Also the Division is responsible for the conduct of a fixed x-ray clinic; the establishment of therapeutic and follow-up clinics in general hospitals throughout the State, several new ones were commenced this year; the medical assessment of Tuberculosis Allowances (by delegation from the Commonwealth Department of Health) and the organization of domiciliary treatment by its team of domiciliary nurses.

It plans the overall mass x-ray programme for the State and shares the task of x-raying with the Anti-Tuberculosis Association of New South Wales, each being allotted a section of the State.

Since the last report the function of epidemiological studies in school children by tuberculin testing has been transferred back to the Division from the Bureau of Maternal and Child Health, previously designated as the School Medical Services. As a result, the activities of the Tuberculosis Division Nurses have been broadened.

The Division's activities continue to be supported by the Commonwealth Government under a Commonwealth State Agreement in terms of the Tuberculosis Act, 1948, and powers of compulsion and other statutory authority for its campaign are contained in Division 3 of the Public Health Act, 1902-1965.

Staff

The Division has a staff of 105, excluding the Director and the Deputy Director, and including medical officers, nurses, radiographers, dark room attendants, x-ray technicians, x-ray operator/receptionists, drivers, clerical staff, etc.

NOTIFICATION OF TUBERCULOSIS

There was a marked decrease in the notification of new and reactivated cases of tuberculosis for 1966, (965) as compared with 1965 (1,124). Details by age, sex, type of tuberculosis, and stage of disease are set out in Tables I, II, and III.

TABLE I—NOTIFICATIONS OF TUBERCULOSIS FOR 1966 SHOWING AGE, SEX AND FORM

Age Group	Males			Females			Persons			Total	Per cent
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated		
0-4	8	10	0	1	9	0	9	19	0	28	2.9
5-9	4	6	0	4	2	0	8	8	0	16	1.7
10-14	1	0	0	2	1	0	3	1	0	4	0.4
15-19	7	1	0	9	2	0	16	3	0	19	2.0
20-24	18	0	0	13	4	0	31	4	0	35	3.6
25-29	19	3	1	15	5	0	34	8	1	43	4.5
30-34	29	3	1	22	3	0	51	6	1	58	6.0
35-39	52	3	3	24	0	2	76	3	5	84	8.7
40-44	49	2	2	25	2	3	74	4	5	83	8.6
45-49	59	6	6	18	1	1	77	7	7	91	9.4
50-54	54	3	4	27	1	2	81	4	6	91	9.4
55-59	67	1	3	17	1	2	84	2	5	91	9.4
60-64	55	5	8	8	3	2	63	8	10	81	8.4
65-69	57	0	5	13	1	0	70	1	5	76	7.9
70-74	43	0	0	14	3	0	57	3	0	60	6.2
75-	65	2	5	26	2	0	91	4	5	100	10.4
Not Stated	3	0	0	2	0	0	5	0	0	5	0.5
Total	590	45	38	240	40	12	830	85	50	965	100
Percentage	61.2	4.7	3.9	24.9	4.1	1.2	86.0	8.8	5.2	100	100

TABLE II—COMPARISON OF FORM AND/OR STAGE OF DISEASE FOR 1966 AS COMPARED WITH PRECEDING YEARS

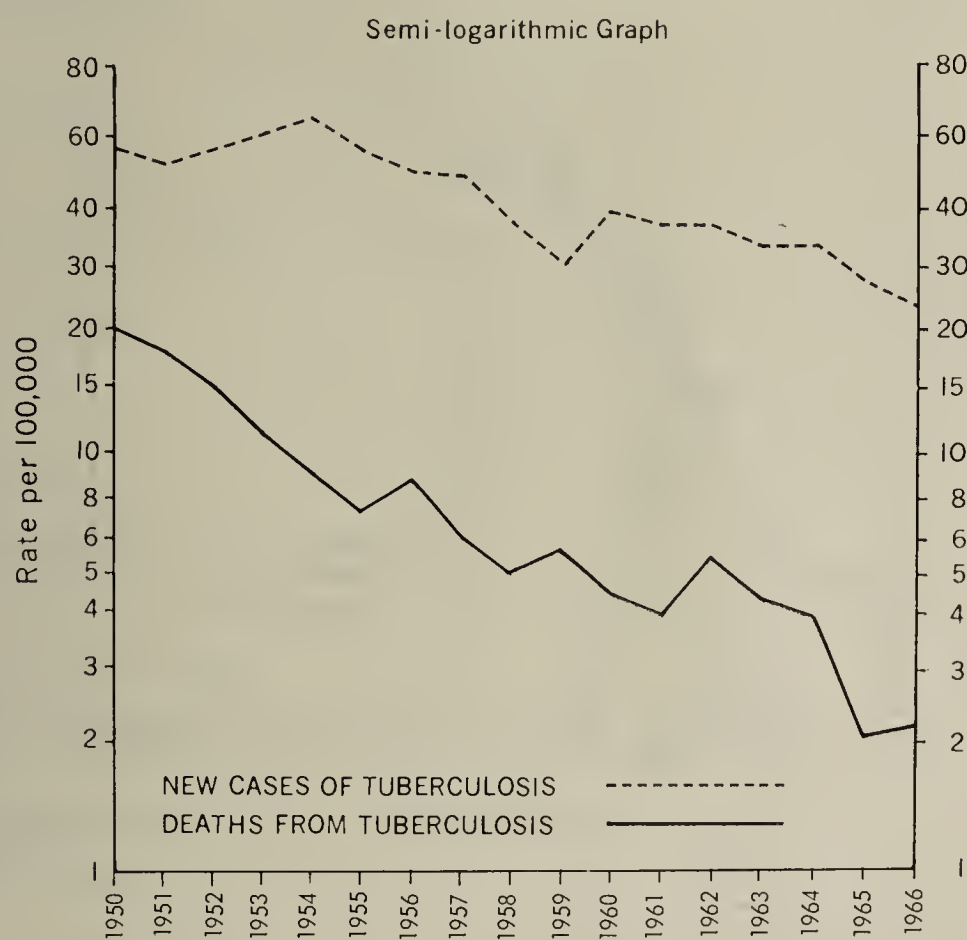
Form and/or Stage of Disease		1957		1958		1959		1960		1961		1962		1963		1964		1965		1966	
		Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions	Cases	Percent- age of total notifica- tions
Primary ..	.. .. .	..	..	..	..	..	..	..	..	10	0·6	10	0·6	17	1·2	10	0·7	17	1·5	21	2·1
Minimal ..	.. .. .	437	26·50	418	29·88	346	29·68	496	32·35	493	33·9	552	37·8	380	27·7	346	24·7	274	24·4	169	17·5
Moderately Advanced ..	.. .. .	911	55·25	692	49·46	540	46·31	675	44·04	622	42·8	526	36·0	491	35·7	527	37·6	568	50·5	520	53·9
Advanced ..	.. .. .	144	8·73	134	9·58	147	12·60	156	10·17	132	9·1	117	8·0	99	7·2	157	11·2	77	6·9	96	10·0
Pleural Effusion ..	.. .. .	..	..	..	..	..	..	11	0·72	29	2·0	36	2·5	28	2·0	51	3·6	18	1·6	20	2·1
Extra Pulmonary ..	.. .. .	44	2·67	52	3·72	39	3·35	78	5·08	90	6·2	113	7·8	70	5·1	88	6·3	73	6·5	84	8·7
Death Certificate ..	.. .. .	113	6·85	102	7·29	94	8·06	117	7·65	79	5·4	106	7·3	74	5·4	71	5·05	..*	..*	5	0·5
Reactivated ..	.. .. .	..	..	..	..	..	..	..	..	..	..	..	..	142	10·3	113	8·05	97	8·6	50	5·2
Quiescent ..	.. .. .	..	..	..	..	..	..	..	..	..	..	..	..	67	4·9	35	2·5	..*	..*	..*	..*
Atypical ..	.. .. .	..	..	..	..	..	..	..	..	..	..	..	..	7	0·5	4	·3	..*	..*	..*	..*
Not Stated ..	.. .. .	..	..	1	0·07	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	.. .. .	1,649	100·00	1,399	100·00	1,166	100·00	1,533	100·00	1,460	100·00	1,455	100·00	1,375†	100·00	1,402†	100·00	1,124†	100·00	965	100·00

* Included in other headings. † This includes reactivated cases.

INCIDENCE OF TUBERCULOSIS

The rate per 100,000 of the population of cases of tuberculosis was 22·81. This can be compared with similar rates since 1950 shown in Figure I. The death rates for the same period are also shown and discussed in a later paragraph. Of the number of new cases of tuberculosis notified in New South Wales during 1966 there were 830 cases of pulmonary tuberculosis and 50 were reactivated. The key years in the tuberculosis campaign would be 55·96 in 1950 (the date of commencement of the State Campaign against tuberculosis), 62·88 in 1954 (the highest rate), and 22·81 in 1966 (the lowest rate). The general trend is that of decrease, a slightly greater decrease than previously forecast. It is a realistic trend.

FIGURE 1



Death Rate

There has been a slight increase in the death rate. The follow-up being carried out on each death certificate has been continued. The reason for increase in death rate is due to the significant number of deaths of respiratory cripples whose pulmonary fibrosis and emphysema were resultant upon a past tuberculous infection. It would be correct to state that the majority of those whose death was related to tuberculosis could be claimed only on an indirect relationship. As in previous years the majority of deaths were in the over fifty years age group.

The total number of deaths from tuberculosis in 1966 was:

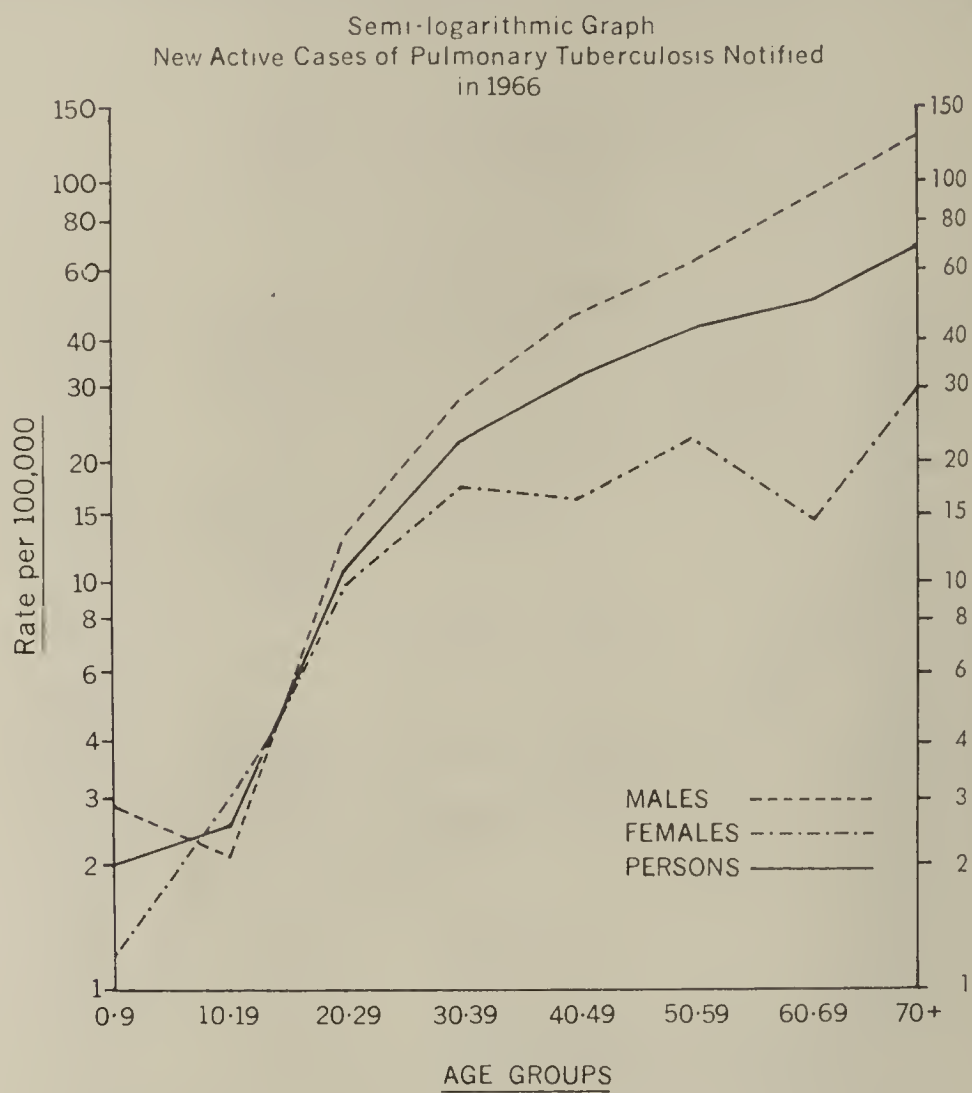
	Male	Female	Total
Respiratory tuberculosis associated with an occupational disease of the lung ..	5	..	5
Pulmonary tuberculosis	72	13	85
Pleural tuberculosis	1	1	2
Tuberculosis of the meninges and central nervous system .. .. .	..	2	2
	78	16	94

Compared with 1965 a slight increase has been noted from 87 to 94. These cases include only those where tuberculosis was related to the cause of death. Cases where the patient died from other causes and had a past history of tuberculosis have been excluded. This represents a rate of 2·22 per 100,000 as compared with 2·07 for 1965.

Age and Sex

In accord with the pattern of previous years the incidence of new active cases of tuberculosis is highest in the group 50 years of age and above, with 1966 predominant in the above 70 group and most marked in males (Figure 2 and Table I).

FIGURE 2



The sex ratio for tuberculosis male/female has an increase in 1966. These ratios since 1958, inclusive, are as under:

Year			Total Notifications Including reactivations	Total Males	Total Females	Ratio Male to Female
1958	..	..	1,399	959	440	1 : 0.46
1959	..	..	1,166	789	377	1 : 0.48
1960	..	..	1,533	1,068	465	1 : 0.45
1961	..	..	1,455	1,041	414	1 : 0.40
1962	..	..	1,460	1,040	420	1 : 0.40
1963	..	..	1,375	963	420	1 : 0.43
1964	..	..	1,402	951	415	1 : 0.47
1965	..	..	1,124	821	303	1 : 0.36
1966	..	..	965	673	292	1 : 0.43

Stage of Disease

As in previous years when commenting on the figures shown in Table II it should be noted that no statistics in this form were kept prior to 1954 and since then further changes in classification occurred in 1960, 1961, 1963, and 1965.

A decrease in the total numbers of minimal, moderately advanced and reactivated cases has occurred.

This is in accord with the decreasing total notification rate. An increase in the number of primary, advanced, pleural effusion, and extra pulmonary cases has occurred. The primary figure is not out of proportion but there is an increase of primary notifications in the over twenty age group. The increased figure for advanced notifications may be related to a greater proportion of notifications coming from general practitioners and a slight drop in mass radiography cases as the source. The increase in pleural effusion cases is not significant, whereas in the total for the non-pulmonary cases a greater proportion were bacteriologically unproven.

These figures included the atypical infections and as is expected with a decreasing notification rate these are becoming more evident. The best indication of progress is the total drop in notifications.

Source of Discovery

Table III shows that the greatest source of discovery of all cases was by Mass Miniature Radiography which totals 35.19 per cent, a decrease of 7.61 per cent from the 1965 figure. There was a slight increase in private medical practitioners, general hospitals, and gaol survey notifications. The most noticeable increase is that in Chest Clinic notifications which rose from 15.45 per cent in 1965 to 22.06 per cent in 1966.

TABLE III

Source	Pulmonary Cases		Non-Pulmonary Cases		Total cases
	No.	Percentage	No.	Percentage	
Mass Community Surveys—					
1. T.B. Division 117 }	292	35.19			292
2. Anti T.B. Association 175 }					
Private Medical Practitioners—					
(a) direct	60	7.23	22	25.97	82
(b) via Chest Clinic	112	13.50	13	15.28	125
General Hospitals	93	11.22	41	48.21	134
Chest Hospitals, Annexes and Sanatoria	10	1.12	3	3.52	13
Chest Clinics	183	22.06	2	2.34	185
Repatriation Clinics and Hospitals	21	2.54	3	3.52	24
Death Certificates	4	0.49	1	1.16	5
Special Groups—					
(a) Mental Hospital Surveys	38	4.58			38
(b) Gaol Surveys	5	0.61			5
(c) Ante-Natal Hospitals	3	0.37			3
(d) Other	9	1.09			9
	830	100.00	85	100.00	915
Less: Any Transfers-in included above	NIL		NIL		
Totals Notifications	830	100.00	85	100.00	915

Migrants

The total number of migrants notified during 1965 was 203—136 males and 67 females. As these figures do not include the reactivated cases, nor cases notified by Death Certificate it can be shown that the migrant percentage is 22.31 per cent as compared with 22.58 per cent in 1966. The total decrease from 229 in 1965 to 203 in 1966 is in accord with the general drop in notifications.

Of the 203 migrant notifications for tuberculosis, 14 were notified within one year of arrival, 40 were notified within one to five years of arrival; 23 were notified within six to ten years of arrival; 111 were notified over ten years of arrival and in one case no time of arrival was stated.

The male to female ratio is 1 : 0.49 which is nearer the Australian born sex ratio than in previous years.

As has been the pattern in previous years there was a greater preponderance of migrant notifications in the 15–29 years age group inclusive when compared with the Australian born persons in the same age group. Although the number of notifications could be related to the country of origin this is of little significance as the total number of migrants from each country is not known.

TUBERCULOSIS ALLOWANCE SECTION

Table IV shows the number of patients receiving Tuberculosis Allowances who are having Institutional or Domiciliary treatment and also the length of time these persons have been in receipt of this Allowance.

TABLE IV—PERSONS RECEIVING THE TUBERCULOSIS ALLOWANCE IN NEW SOUTH WALES
AS AT 31ST DECEMBER, 1966

Location of Patients								
Receiving Treatment in Institutions			Receiving Treatment outside Institutions			Total Persons Receiving Treatment		
Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
149	25	174	160	47	207	309	72	381

Period in Receipt of Allowance												
Period										Males	Females	Persons
Under 1 year	..	..	..	..	..	..	..	..	..	230	56	286
1-2 years	..	..	..	..	..	..	..	..	..	38	10	48
2-3 years	..	..	..	..	..	..	..	..	..	7	1	8
3-4 years	..	..	..	..	..	..	..	..	..	4	2	6
4-5 years	..	..	..	..	..	..	..	..	..	6	..	6
Over 5 years	..	..	..	..	..	..	..	..	..	24	3	27
Total		..	..	..	..	..	..	..	..	309	72	381

The number of patients receiving the Tuberculosis Allowance, 381 in 1966, is much the same as in 1965; 385. Of this number, 309 were males and 72 females. Of the total of 381, 174 were receiving treatment in hospitals and 207 were receiving home treatment at the end of the year. This could be related to an increase in notifications coming from the lower income group.

Fifteen cases were nominated by the Tuberculosis Housing Committee for “out of priority” housing to the Housing Commission of New South Wales. Two of the above number were allocated houses as well as two others who were recommended but not housed in 1965.

Of the remaining thirteen cases recommended, two have been rejected for the reasons stated below and final decisions are awaited in eleven.

Excess income	..	..	..	..	..	..	..	1
Change of address	..	..	..	..	..	..	..	1

RADIOLOGICAL SURVEYS

Mass Radiological Surveys are carried out by the Tuberculosis Division and the Anti-Tuberculosis Association of New South Wales. Statistics from each organization will be given separately later in the Report. Statistics for the total mass radiography campaign are given in Table V.

TABLE V—X-RAY CAMPAIGNS IN N.S.W., 1966

Number x-rayed—all ages: 800,748 Psychiatric Hospitals: 15,155

These figures include mass x-ray campaigns conducted by the Tuberculosis Division, the Anti-Tuberculosis Association of New South Wales, the Departmental Chest Centre, the Anti-Tuberculosis Association of New South Wales Clinic, Psychiatric Hospitals and Special X-ray Surveys and routine X-ray films taken on 70mm units in Public Hospitals.

Age			Active	Suspect Active	Inactive	Other conditions
15-19	..	..	5	3	62	135
20-24	..	..	8	8	107	247
25-29	..	..	14	11	189	287
30-34	..	..	18	10	273	285
35-39	..	..	24	9	383	487
40-44	..	..	32	16	507	647
45-49	..	..	29	11	526	690
50-54	..	..	20	21	600	962
55-59	..	..	19	17	588	1,182
60-64	..	..	18	22	570	1,166
65-69	..	..	14	15	454	1,034
70-74	..	..	14	7	366	825
75 and over	..	..	23	8	457	1,097
Totals	238	158	5,082	9,044

PSYCHIATRIC HOSPITAL SURVEYS

All ages	37	21	213	200
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Comment on Mass Surveys

As in preceding years the yield of cases in the under 21 age groups seem to be less than each other age group. Persons under 21 years of age are not compulsorily submitted to x-ray examination and are advised that unless they fall under the following categories a chest x-ray is not required. These categories are tuberculin positive contacts, pre-employment x-rays and tuberculin positive school children (usually examined at a Chest Clinic).

TABLE VI—ABNORMALITIES OTHER THAN TUBERCULOSIS NOTED IN X-RAY SURVEYS IN THE PERIOD ENDING 31ST DECEMBER 1966.

										Country	Metropolitan	Chest Centre & A.T.A. Clinic
Tumours—												
Carcinoma of lung—												
Proven	..	..	..	..	..	..	..	..	..	8	24	8
Radiological Diagnosis	..	..	..	..	..	..	..	..	..	26	27	22
Secondary	..	..	..	..	..	..	..	..	..	35	15	6
Lymphocarcinoma	..	..	..	..	..	..	..	..	..	3	2	..
Hodgkins Disease	..	..	..	..	..	..	..	..	..	1	..	..
Osteochondroma	..	..	..	..	..	..	..	..	..	3	2	1
Benign Tumours	..	..	..	..	..	..	..	..	..	11	10	3
Cysts—												
Hydatid	..	..	..	..	..	..	..	..	..	11	3	1
Dermoid	..	..	..	..	..	..	..	..	..	1	1	..
Substernal Goitre	..	..	..	..	..	..	..	..	..	99	192	13
Silicosis and other Industrial Diseases	..	..	..	..	..	..	..	..	..	118	61	10
Cardio-Vascular Conditions	..	..	..	..	..	..	..	..	..	765	1,722	233
Diaphragmatic Abnormalities	..	..	..	..	..	..	..	..	..	283	118	27
Inflammatory and Degenerative Conditions—												
Acute—												
Pneumonia and Pneumonitis	..	..	..	..	..	..	..	..	..	119	235	266
Pleural Effusion	..	..	..	..	..	..	..	..	..	8	13	12
Chronic—												
Bronchitis	..	..	..	..	..	..	..	..	}	999	914	324
Bronchiectasis	..	..	..	..	..	..	..	..
Fibrosis and Emphysema	..	..	..	..	..	..	..	..
Calcification due to Varicella	..	..	..	..	..	..	..	..	..	4	5	..
Spontaneous Pneumothorax	..	..	..	..	..	..	..	..	..	1	11	13
Pulmonary Boinophilia	..	..	..	..	..	..	..	..	..	2	1	..
Middle Lobe Syndrome	..	..	..	..	..	..	..	..	..	6	3	..
Sarcoidosis	..	..	..	..	..	..	..	..	..	13	20	8
Bony Abnormalities	..	..	..	..	..	..	..	..	..	92	206	18

Mass Radiography still remains the most important source of discovery and during 1966 was responsible for 35·19 per cent of cases notified. A list of abnormalities of conditions other than tuberculosis discovered by both the Tuberculosis Division and the Anti-Tuberculosis Association of New South Wales is given in Table VI.

Radiological Surveys—Division of Tuberculosis

Statistics for this activity of the Division are set out in Table VII.

A. MASS MINIATURE SURVEYS

During the year 1966, the following areas were surveyed:

(1) *Fourth Round Surveys.*

City of Wagga Wagga
Municipality of Deniliquin
Shires of Holbrook
Shires of Kyeamba
Shires of Mitchell
Electorate of Monaro
South Coast Electorate
 Sub-Divisions of Moruya
 Cobargo
 Bega

(2) *Fifth Round Surveys.*

Electorates of Hornsby
 The Hills
 Gordon
 Eastwood
 Kirribilli
 Willoughby
 Lane Cove
 Ryde
City of Blue Mountains

(3) *Sixth Round Surveys.*

Municipality of Kiama
 Shellharbour
City of Greater Wollongong

The total number of x-ray films taken during the year was 315,696 which was 28,326 more than during the previous year.

The number of active cases of pulmonary tuberculosis discovered during these surveys was 74, representing 0·23 per 1,000 films taken, as against 0·26 cases for the year 1965. Another seventeen cases were referred for further investigation and most of these are expected to be notified on completion of investigations.

Considerable difficulty has been experienced in calculating the percentage attendance of the eligible population. This is due to the raising of the minimum age for compulsory attendance from 14 to 21 years and the fact that persons between school leaving age and 21 years voluntarily attend for x-ray. However, sampling has given an approximate figure to allow for attendance under 21 years and is later taken into account in calculating the figures.

The percentage attendance of the eligible population is certainly less than in 1965 in the Metropolitan area. This has followed the experience of previous years when it has been noted that attendances on the northern side of the Harbour are less satisfactory than in other Sydney Metropolitan areas.

TABLE VII—SUMMARY OF X-RAYS TAKEN BY TUBERCULOSIS DIVISION DURING THE YEAR ENDING 31ST DECEMBER, 1966

	1	2	3	4	5	6	7	8	9	10	11	12
	Total Number of Persons X-rayed	Estimated percentage of population of proclaimed area	Number of persons rerayed on large films	Percentage	Technical Faults	Percentage	Cases of active Tuberculosis	Cases per 1,000 micro films	Cases of suspect active Tuberculosis	Cases of Inactive Tuberculosis	Other Abnorm- alities	Cases under investigation excluding cases in Column 9
Metropolitan	160,432	65	1,142	0.71	363	0.23	26	0.16	4	694	2,199	71
Country	155,264	82.9	1,381	0.88	433	0.28	48	0.31	13	718	1,887	56
Total	315,696	74.5	2,523	0.80	796	0.25	74	0.23	17	1,412	4,086	127
Chest Centre	40,112	..	368	0.92	540	1.35	16	0.40	11	375	663	40
Special Surveys	7,840	..	85	1.01	22	0.28	2	0.26	..	52	106	15
Psychiatric Hospitals	3,207	..	65	2.03	29	0.90	2	0.62	4	63	67	5

However, further amplification of the problem of assessment of attendances at x-ray surveys is given in the Section on Implementation of Compulsion.

The x-ray units functioned much more satisfactorily due to the recently completed rebuilding and maintenance programme and as a result the number of technical faults is much less than usual and is probably approaching an irreducible minimum.

B. CHEST X-RAY CENTRE

The total number of persons X-rayed at the Chest X-ray Centre was 40,112, which was 3,416 less than in the previous year.

Sixteen (16) cases of active tuberculosis were discovered representing 0.40 cases per 1,000 films taken, as against 0.28 cases in 1965. A further eleven cases were referred for further investigation and most are expected to be notified on completion of investigation. A further three cases were notified from persons X-rayed in 1965 on completion of investigation, bringing the total for the year 1965 to fifteen.

The relevant statistics are shown in Table VII.

A trial opening of the Chest X-ray Centre on Tuesday nights showed a somewhat disappointing attendance in the beginning, but as the service is becoming better known the attendances now show satisfactory figures indicating the need for such a service.

C. SPECIAL SURVEYS

In these surveys 7,840 X-rays were taken. They included prisons and homes for aged persons. The majority were Army and RAAF personnel from whom little disease was expected to be found. Two active cases of tuberculosis were discovered.

D. PSYCHIATRIC HOSPITALS

Surveys were conducted at the Rydalmere, Kenmore, and Gladesville Psychiatric Hospitals. The total number of persons X-rayed was 3,207 including staff. Amongst those found were two cases of active tuberculosis and sixty-three cases of inactive disease. A further five cases were referred for further investigation and sixty-seven other abnormalities were noted.

E. STATE PENITENTIARY, MALABAR

The static 70 mm unit was continued in operation at the State Penitentiary during the past year. A total number of 4,513 persons were X-rayed. This is considerably short of the total number of persons admitted during that period but owing to shortage and inadequacies in the staffing of the hospital gaol it was not possible to ensure that every new prisoner was X-rayed.

Until a full time operator is appointed to do this work this state of affairs will continue and it also will not be possible to produce accurate statistics relating to these X-rays.

From the total X-rayed, three cases of active tuberculosis were discovered. Also, amongst these prisoners X-rayed were at least four cases of persons who had been notified previously as suffering from active tuberculosis who were not taking anti-tuberculous drugs as prescribed and not attending clinics as required. During their stay in prison it was possible to ensure that these patients received adequate drug treatment for their disease. If it had not been for the 70 mm X-ray unit, their need for treatment would not probably have been recognized. A number of other prisoners who were found to have old inactive tuberculosis, who had been untraced and not attending clinics were also reviewed and X-rays compared with previous records.

Surveys of other prisons and prison farms were undertaken and from the 1,044 films taken, 4 cases of active tuberculosis were discovered and treatment commenced after admission to the hospital at the State Penitentiary. One suspect active case was also found; unfortunately the man was discharged before he could be investigated and has not since been traced. Another eleven cases of inactive tuberculosis were also noted.

Radiological Surveys—Anti-Tuberculosis Association of New South Wales

A. MASS SURVEYS

Statistics of Mass Radiological Surveys conducted by this organization are given in Table VIII.

TABLE VIII—MASS RADIOLOGICAL SURVEYS—THE ANTI-TUBERCULOSIS ASSOCIATION OF NEW SOUTH WALES

Total No. of x-rays	Active tuberculosis		Inactive tuberculosis	Suspect active tuberculosis	Other conditions
	1966	1965			
<i>Metropolitan Area—</i> 235,085	29	118	1,457	10	1,883
<i>Country Areas—</i> 97,260	38	37	452	11	847

As can be seen by comparison with the figures shown in the 1965 Annual Report a further fifty-two cases have been added, forty-four to Metropolitan Area and eight to the Country Areas, making the respective totals for 1965 of seventy-four and twenty-nine, the diagnosis of which were not confirmed until 1966.

B. ANTI-TUBERCULOSIS ASSOCIATION CLINIC

The value of this unit continues to be demonstrated by the number of active cases found. For a total of 18,588 X-rays, 19 cases were found and the adjusted figure for 1965 shows 58 cases as before. Many of these are direct referrals from general practitioners.

C. SPECIAL SURVEYS

Despite the revision of this part of the programme only 3 active cases of tuberculosis and 5 suspect active cases were found from the X-raying of 21,768 persons. Six more cases were notified which resulted from the 1965 surveys taking the total for 1965 to twenty-two.

D. SYDNEY HOSPITAL UNIT (ANTI-TUBERCULOSIS ASSOCIATION OF N.S.W.)

Although this unit lent and staffed by the Anti-Tuberculosis Association to the above hospital has yielded few results, its strategic position has resulted in many doctor referrals from Macquarie Street rooms and enabled numerous non-attenders from compulsory surveys to more easily attend to their legal requirements. From a total of 24,343 X-rayed, 2 active cases were found.

Routine Hospital X-Ray Programmes

A 70 mm X-ray unit was installed in the Royal North Shore Hospital in 1966. Some of the other 70 mm units in Hospitals are either not yet being fully used or not functioning completely satisfactorily in all cases, but it is planned to rectify this situation during the coming twelve months. From 19,494 X-rays, 10 active and 61 suspect active cases were found. From the 70 mm unit installed in Psychiatric Hospitals, 8,545 X-rays were taken for a yield of 34 active cases and 5 suspect active.

During the coming twelve months it is intended to transfer the 70 mm unit at Randwick Chest Hospital to Gladesville Psychiatric Hospital and recommence the use of the 70 mm unit at the Wollongong Hospital.

EPIDEMIOLOGICAL SURVEYS

During the year this section of the Tuberculosis Control Programme was once more transferred to the Tuberculosis Division. The resultant figures continue to show a reduction of the infection rate when compared with the 1965 figures. Second, Fourth, and some Fifth repeat year students from secondary schools in the Metropolitan area and in parts of the North Coast, North Western, Western, and South Coast Health Districts were tested.

As in previous years when there was a case of tuberculosis notified from amongst the pupils or the staff, arrangements were made for the skin testing and where necessary, the X-raying of all the school inhabitants. The relevant Table IX includes age groups tuberculin tested at the Divisional Headquarters as well.

TABLE IX—EPIDEMIOLOGICAL TUBERCULIN TESTS

Health District	Age Group	Total Read	Positive				Percent- age Negative
			Not previously vaccinated with B.C.G.		Previously vaccinated with B.C.G.		
			No.	Percent- age *	No.	Percent- age †	
Metropolitan	0-4	75	5	6.66	—	—	93.33
	5-9	51	2	3.9	—	—	96.1
	10-14	31623	1934	6.16	233	0.73	93.84
	15-19	16662	1053	6.92	174	1.04	93.08
	20-24	2048	423	20.92	26	1.27	79.08
	25-29	72	40	61.5	7	9.72	38.5
	30-34	64	34	55.7	3	4.66	44.3
	35-39	50	22	44.9	1	2.00	55.1
	40-44	43	26	60.5	—	—	39.5
	45-49	19	8	44.4	1	5.26	55.6
	50 and Over Considered miscellaneous	16	11	68.75	—	—	31.25
	467	74	16.1	8	1.7	83.9	
	51190	3632	7.09	453	0.88	92.91	
North Coast Health District ..	10-14	2110	87	4.23	—	—	95.77
	15-19	1398	73	5.22	—	—	94.78
		3508	160	4.56	—	—	95.44
North Western Health District.	10-14	803	54	6.85	—	—	93.15
	15-19	370	34	9.19	—	—	90.81
		1173	88	7.5	—	—	92.5
Western Health District ..	10-19	1541	60	3.94	17	1.1	96.06
	15-19	920	39	4.27	6	0.65	95.73
		2461	99	4.06	23	0.94	95.94
South Coast Health District ..	5-9	216	—	—	—	—	100.00
	10-14	2991	175	5.91	28	0.94	94.09
	15-19	1282	80	6.29	10	0.78	93.71
		4489	255	5.75	38	0.85	94.25
Total for N.S.W.	0-4	75	5	6.66	—	—	93.33
	5-9	267	2	0.75	—	—	99.25
	10-14	39068	2310	5.95	278	0.71	94.04
	15-19	20625	1279	6.26	190	0.92	93.74
	20-24	2048	423	20.92	26	1.27	79.08
	25-29	72	40	61.5	7	9.72	35.5
	30-34	64	34	55.7	3	4.66	44.3
	35-39	50	22	44.9	1	2.00	55.1
	40-44	43	26	60.5	—	—	39.5
	45-49	19	8	44.4	1	5.26	35.6
	50 and over Unstated miscellaneous	16	11	68.75	—	—	31.25
	467	74	16.1	8	7	83.9	
Totals	All ages	62814	4234	6.80	514	0.82	93.20

NOTE:

1. 62,814 persons out of 65,662 tested reported for reading.

2. * The percentage of the number of persons treated less the number of these persons tested who were previously vaccinated with B.C.G.

3. † This percentage relates to the number tested.

On examination the statistics show that the percentage infected in the lower age group (0-4, 5-9) is high; this is not a true cross section of that age group and refers only to children at school who were exposed to infection and insufficient numbers were tested to give a valid result. Compared with 1966 there is a drop in the infection rate in the 10-14 group—average age fourteen years from 9.2 to 5.95; and from 11.8 to 6.26 per cent in the 15-19 group—average age 16 years. This compares favourably with the records of previous years. However, as a significant number of school children found to be tuberculin positive in previous years were not included in the fourth year groups as they were in many cases already attending chest clinics. Should they be included this would increase the infection rate in the 15-19 years age group.

Out of the total 4,234 tuberculin positive children not previously vaccinated with B.C.G. 1,587 were 15 mms or more in induration as a result of the tuberculin test. In the group previously B.C.G. vaccinated, 257 out of 514 were similarly large reactions.

Table X below shows some interesting difference in tuberculinisation rates in sexes, taken mainly from school children and does not include people at risk.

TABLE X

Age Grouping	Male		Female		Co-education		State Total	
	No. tested	Per cent positive	No. tested	Per cent positive	No. tested	Per cent positive	No. tested	Per cent positive
10-14 ..	12,538	6.4	10,423	5.1	16,107	6.17	38,068	5.95
15-19 ..	8,225	7.46	5,651	4.3	6,749	6.4	20,625	6.26
20-24 ..	2,031	20.9	17	18.75	....	....	2,048	20.92
25-29 ..	46	73.2	26	41.7	....	....	72	61.5
30-34 ..	45	65.9	19	29.4	....	....	64	55.7

In assessing these figures it would suggest that when an extension of the B.C.G. vaccination campaign is considered that it would be best carried out late in primary school or earlier in secondary school. The latter would be the more readily available in larger groups in a smaller number of locations.

Alterations to or extensions of the present tuberculin testing programme could well be related to the proposed Australia wide investigation to be carried out and relating to techniques of tuberculin testing. As before, chemoprophylaxis of the recent convertor and the large reactor continued to be carried out.

VISITING NURSING SECTION

There has been a drop of 979 visits made by the Metropolitan portion of the Divisional Nursing Section from 21,036 in 1965 to 20,057 in 1966. However, the days spent at Clinics increased from 1,722 to 1,896 and 420 days were spent in relieving duties in both Metropolitan and Country areas.

During 1966, the tuberculin testing programme in school children was transferred back to the Tuberculosis Division. The Nursing Section was increased by three Sisters, one of whom was appointed to the re-opened post of Senior Sister.

The latter is responsible for team supervision and organization, as well as all the testing at Divisional Headquarters. One of the Sisters staffed the additional Metropolitan Clinic opened at Hornsby.

During the year the Domiciliary Section carried out visits for the compulsory survey in the Granville, Vacluse, and Gordon Electorates, Cities of Blue Mountains and Dubbo. This Section also made arrangements for reviews for the Medical Examination Centre of patients with pulmonary abnormalities requiring assessment and follow-up.

Bearing in mind the importance of regular follow-up of patients with inactive disease, an increasing number of such patients who were irregular attenders and required follow-up to better ensure their co-operation, were visited. This included more than 200 such patients from the Anti-Tuberculosis Association.

HOSPITAL BEDS—TABLE XI

Since the last Annual Report the following hospital beds have been released for other roles:

Lourdes Hospital—seventeen as from 1st January, 1967.

During 1966, some hospital beds were released for other uses, but which still could be used for tuberculous patients if necessary.

Princess Juliana reduced from 100 to 64 and Randwick Chest Hospital from 198 to 145.

There is an increased availability of beds at the Wollongong Hospital. With the opening of the new In and Out-Patient block the beds available have been increased from sixteen to twenty.

BACTERIOLOGICALLY POSITIVE CASES—TABLES XII, XIII

The reduced number of persons who became positive during the year and the related statistics are in accord with the reduced numbers of new notifications, reactivated and relapsed cases. The apparent increase of known positive persons in the State at the end of the year are related to the adoption of a more efficient method of collecting statistics and the obtaining of information from the Repatriation Department not readily obtainable before.

Those positive cases out of hospital including most Repatriation cases are under constant supervision. They are in the main, chronic positive elderly cases receiving regular home visits to safeguard the public health aspect. In addition, they are frequently assessed medically and hospitalised when required.

The corresponding table for bacteriologically positive cases with atypical organisms was presented for the first time.

DRUG RESISTANCE—See TABLE XIV

A more realistic method of collecting these statistics has enabled a more accurate presentation of these results.

Testing and reporting is in conformity with the recommendations of the Bacteriological Sub-Committee on the National Tuberculosis Advisory Council.

Information is notified from the Repatriation Department of the sensitivities of reactivated cases but not of the previously treated and chronically positive cases.

A significant increase is shown in all cases where the drug resistance of previously treated and untreated cases is compared.

TABLE XIV

Resistant to						Resistant to					
Streptomycin		P.A.S.		Isoniazid		Two drugs		All three		Other drugs	
Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
21	5.3	20	5.0	28	7.5	<i>Untreated Cases</i>		5	1.2	8	2.0
						9	2.3				
41	16.3	47	18.7	82	32.7	<i>Previously treated cases</i>		27	6.8	19	4.8
						18	4.5				

Information is notified from the Repatriation Department of the sensitivities of untreated cases but not of the previously treated and chronically positive cases.

TUBERCULOSIS IN THE HEALTH DISTRICTS

Visits were made to all Health Districts during the year. Certain of the clinics were found to have problems related to the collection and collation of statistics. These problems related more to interpretation of information required and are being overcome.

Brief notes on tuberculosis control evolved from each centre are given below.

Metropolitan Health District

The incidence of tuberculosis has continued to decrease, the highest incidence areas being found in the City of Sydney, 0.70 and the Hunter's Hill-Gladesville area, 0.77.

A total of 645 new cases were discovered in the Metropolitan area, 445 males and 200 females, giving an incidence of 0.26 per thousand.

Miniature Mass Radiography Surveys were carried out by both the Tuberculosis Division and the Anti-Tuberculosis Association. From both sources a total of 395,517 persons were X-rayed. From these, 55 cases were found to be active and 14 cases were still under investigation. A total of 2,151 inactive cases of tuberculosis were reported and 4,082 other non-tuberculous abnormalities were detected.

In 1966 tuberculin testing of school children in the Metropolitan Area showed an infection rate of 6.16 per cent in the 10-14 age group, and 6.92 per cent in the 15-19 age group, as compared with 9.95 and 12.7 per cent respectively in 1965. This reduction was related to improvement in the techniques of tuberculin testing as well as in accord with the lowering incidence of tuberculosis.

Newcastle Health District

No Mass Miniature X-ray surveys were carried out in this Health District during 1966.

A total of seventy-six cases were notified throughout the Health District, fifty males and twenty-six females. The notifications per 1,000 were 0.15, the highest incidence area was Taree, 0.38. Unfortunately, no tuberculin tests of school children were carried out during 1966. This is regarded as a serious omission, as much necessary preventive action was not able to be carried out in these age groups.

When clinic attendances over the latter three years were compared, a slight overall drop was noted—although home visiting showed an increase. The only clinic showing increased attendances was Gosford. It is expected with the gradual lessening of incidence that contact attendance showed decrease, whereas with improved follow-up of the inactive case the latter type should show a temporary increase. As yet the Muswellbrook area has not been opened and more adequate housing for the Gosford Chest Clinic is still under discussion.

North Coast Health District

There has been a decrease in attendances at many of the clinics during the past year. Greater attention may need to be paid to the attendance and regular follow-up of cases with inactive tuberculosis. No Miniature Mass Chest X-ray surveys were carried out in this Health District during the year.

From all sources 11 new cases of tuberculosis were notified, 6 males and 5 females—a notification rate of 0·07 per 1,000 compared with 0·27 in 1965. The highest incidence area was Copmanhurst 0·42, one case only.

Of the second and fourth year secondary school pupils, 3,508 were tuberculin tested, giving an infection rate of 4·56 per cent. This is lower than the corresponding rate for 1965 which was 7·9 per cent. This is in accord with the lessening notification rate but as in 1965 would appear higher than expected. The overlay of the atypical organisms is not completely certain.

North Western Health District

Miniature Mass Chest X-ray Surveys were carried out in this district during the year.

A total of 74,641 X-rays were taken which resulted in 29 active tuberculosis cases and 11 suspect active cases. As well, 330 inactive and 621 other abnormalities were found.

A slight drop in clinic attendance return mainly in the investigation group was noted. However, it was more related to temporary shortage of staff. A total of 44 cases of active tuberculosis were notified, 36 males and 8 females, giving a notification rate of 0·28 per 1,000 as compared with 0·25 per 1,000 in 1965, the increase probably was related to the effect of the survey. The highest incidence areas were Narrabri, 1·18, Nundle 0·74, Tamworth 0·55, Walcha 0·53, and Moree 0·51.

The Mantoux conversion rate of 7·5 per cent although still higher in the other parts of the State has shown a decrease from 12·8 per cent in 1965. A total of 1,173 school children were tuberculin tested. In the report for this Health District in 1965, mention was made of the effect of the anonymous mycobacteria.

Clinic facilities are being extended throughout the Health District. An additional Tuberculosis Clinic Sister has been appointed and new clinics commenced at Glen Innes and Inverell.

Western Health District

Mass Miniature X-ray Surveys were conducted by the Tuberculosis Division during the year in the City of Blue Mountains and the Electorate of Castlereagh.

A total of 36,211 chest X-rays were taken. From these, fourteen cases of tuberculosis were discovered and a further one is suspect active. A total of 181 cases of inactive tuberculosis and 379 abnormalities were also found.

Overall, clinic attendances showed a slight increase, or remained approximately the same except in the Blue Mountains Area. With the lessening of the Tuberculosis work here the Sister concerned is employed in other nursing aspects of Public Health as well.

New cases of active tuberculosis totalled 51 and here being 34 males and 17 females, a rate of 0·19 per 1,000 compared with 0·34 in 1965. Peak Hill had the highest incidence of 1·45, Gilgandra 0·77, and Darling 0·61.

Tuberculin testing of 2,461 secondary school children showed an infection rate of 4·06 per cent. This latter figure could not be compared with previous figures, as these age groups were not tested in 1965.

South Coast Health District

Clinic attendances continued to show an increase at Wollongong, Nowra, and Goulburn. The Tuberculosis Division conducted Mass Miniature X-ray Surveys in parts of the Health District.

A total of 118,334 X-rays were taken, representing 84·0 per cent of the estimated eligible population; 34 cases of active tuberculosis were notified and 12 suspect active cases are under investigation. The number of inactive cases discovered was 590 and 1,422 other abnormalities were also found.

During 1966, 94 active tuberculosis cases were reported, 68 males and 26 females giving a rate of 0·29 per 1,000, Cooma having the highest incidence of 0·44. The overall incidence rate of the Health District would be in accord with the tuberculin infection rate of 5·75 per cent obtained from the skin testing of 4,489 secondary school children, a decrease from the 8 per cent obtained in 1965.

The new tuberculosis In and Out-patient Block was completed and opened by the N.S.W. State Minister for Health in December. These buildings should assist in making a big difference to the tuberculosis programme and help relieve the already overcrowded conditions in the hospital, as well as ensuring the proper isolation of tuberculosis patients from others in the old infectious disease ward. The nursing staff increased by one Sister.

Riverina Health District

Increased clinic attendances occurred at Leeton. Mass Miniature Chest X-ray Surveys were conducted by the Tuberculosis Division; a total of 21,901 X-rays were taken, showing an 83·0 per cent attendance. Nine cases of active tuberculosis have been notified. In addition, 70 inactive cases of tuberculosis were discovered and 227 other abnormalities were also found.

Twenty-eight new cases of tuberculosis were notified during the year, 19 males and 9 females; a rate of 0·11 per 1,000. No high incidence areas were noted. No tuberculin skin testing of school children was carried out. With the proposed appointment of an additional Sister to this district, this essential aspect should be able to be achieved in the future.

TUBERCULOSIS IN THE MINING INDUSTRY

The notification of tuberculosis in the coal mining industry and the mines at Broken Hill has continued to show a drop.

The Joint Coal Board's compulsory withdrawal scheme continues to function satisfactorily. With an appointment of a nursing Sister at Broken Hill and the proposed functioning of a clinic there, a great improvement in tuberculosis services in Broken Hill should be seen.

Year				Joint Coal Board	Bureau of Medical Inspection
1956	..	..	..	5	..
1957	..	..	..	9	..
1958	..	..	..	8	..
1959	..	..	..	8	9
1960	..	..	..	2	4
1961	..	..	..	3	3
1962	..	..	..	3	5
1963	..	..	..	4	2
1964	..	..	..	7	2
1965	..	..	..	5	1
1966	..	..	..	2	1

IMPLEMENTATION OF COMPULSORY SURVEYS

The problem of attendances at compulsory X-ray surveys has been considered at length and the following remarks are pertinent. It is now 3½ years since the first fully implemented compulsory survey was carried out in the Electorate of Lane Cove. Another survey was conducted in this area in August, 1966. The attendance figures at X-ray units showed that 13,712 persons were X-rayed as compared with 17,500 at the same sites as in the previous survey in 1963. During this period the total population of the area increased by less than 1,000 so that there was a reduction of 22 per cent in attendance figures.

In the first twelve months the compulsory lower age limit for attendance at X-ray surveys was raised from 14 to 21 years but sampling has shown that a significant number of persons of school leaving age and under 21 years voluntarily present themselves for X-ray. Analysis of the figures suggest that the increase in population in the area approximately balances the number of these under 21 years not attending who had attended previous surveys. Therefore, the 22 per cent is approximately the actual drop in attendance of those eligible as compared to the previous survey. However, the estimated percentage attendance of those eligible is at least 10 per cent above those in adjacent areas where compulsory surveys had not been implemented previously.

It was also noted in the City of Wagga where the previous survey in 1965 was compulsorily implemented that there was a drop of over 25 per cent in the attendance during 1966 after allowing for increase in population and raising of the lower age limit for compulsory attendance. The percentage attendance of the eligible population in Queanbeyan was close to 90 per cent and this followed a compulsorily implemented survey of the A.C.T. about 10 months previously.

The work of following up non-attenders within the office of the Division has been very much complicated because of the number of persons who have had a chest X-ray within 12 months prior at a mobile X-ray unit somewhere else in the Metropolitan area. This sometimes occurs at a factory or other place of work but occurs especially when X-ray surveys are conducted within the City of Sydney area.

It is tacitly assumed by large numbers of persons that the Division holds records to permit cross checking between surveys and the fact that they have had an X-ray should be noted and their names automatically marked off as having attended. This would involve much greater use of automatic data processing methods than is currently being done.

Because of this attitude two or more letters may be necessary with enclosed reply paid envelopes to be able to ascertain that a person has actually complied with the compulsory chest X-ray proclamation. If persons were only X-rayed in the area in which they reside the work entailed in following up surveys would be markedly reduced.

The most difficult periods occur as when in 1966 commencing in April the Electorates of Gordon, Hornsby, Eastwood, The Hills, Ryde, Lane Cove, Willoughby, and North Sydney were surveyed. A survey of the City of Sydney was conducted during October/December, 1965.

Examination of the returns of the follow-up of the Gordon Electorate show that out of 28,000 notices sent out to persons on the electoral roll almost 4,000 provided evidence of X-ray within 12 months, the great majority having attended units in the City of Sydney area.

At a previous survey of the City of Sydney in 1961 a total of 125,000 persons were X-rayed. Analysis of addresses of persons not resident in the City of Sydney showed the following numbers were residents of municipalities north of the harbour:

Ku-ring-gai	9,630	Manly	1,945
Hornsby	1,399	Warringah	3,120
Lane Cove	1,280	Mosman	2,447
Willoughby	2,289	North Sydney	1,716
Ryde	1,762		

Attendances at the City of Sydney surveys in 1963 and 1965 were approximately 225,000 and 187,000 respectively.

The next survey in the City of Sydney area is due to be commenced about the middle of 1968. In this survey consideration will be given to excluding X-ray units from the main business and retail area of the City. Persons residing in this area would be adequately catered for by the X-ray units at the Chest X-ray Centre, The Anti-Tuberculosis Association Unit in the Sydney Hospital grounds in Macquarie Street and it is then hoped to have a 70 mm unit working at 86-88 George Street North, Sydney.

SEVENTEENTH NATIONAL TUBERCULOSIS ADVISORY COUNCIL

From amongst a number of important matters discussed at the above meeting the following matters were recommended for action:

Council resolved that Dr Harris be requested to release one of his medical officers to visit all States to make a study of the techniques of tuberculin testing in conjunction with the State Directors of Tuberculosis. It is intended that Dr Randmae should be selected for this and to carry it out during 1967.

Council resolved that tuberculin negative staff who had not been satisfactorily vaccinated with B.C.G. should not be employed in a unit which deals with tuberculous In-patients or Out-patients. This is already the routine in all hospitals in this State.

CONCLUSION

The further marked reduction in the morbidity rates for the year 1966 has demonstrated the continual effectiveness of the campaign being waged against tuberculosis. Emphasis needs to be placed especially on the maintenance of standards in bacteriological procedures, the continued and regular follow-up of the inactive case, the necessary co-operation of the medical profession and the education of the public to accept changes in the case finding procedures which must come about over the next decade.

This opportunity is taken to thank the Senior officers of the Department of Public Health of New South Wales, the Commonwealth Health Department, the staff of the Division of Tuberculosis and other intra and extra-Departmental personnel and organizations for the assistance given and co-operation received.

PUBLIC HEALTH SERVICES

Health Inspection Branch

Location: 52 Bridge Street, Sydney

STAFF

Chief Health Inspector—Mr H. K. Evans.

Deputy Chief Health Inspector—Mr K. W. Bagnall.

Four Senior Health Inspectors (one position vacant); sixteen Health Inspectors (two positions vacant and two on secondment); eight Cadet Health Inspectors (four positions vacant); two Registered Surveyors; one senior and one junior Tracer (female); two female Office Assistants (one position vacant); one Records Clerk.

Six senior health inspectors and thirteen health inspectors were detached for duty in the various Health Districts. One position as Health Inspector was vacant in the South Coast Health District.

Staff Changes

There were six resignations (Health Inspectors, four; Cadet Health Inspectors, one; female Office Assistants, one). Two senior health inspectors were appointed from outside the service. In addition, seven health inspectors and one surveyor were appointed to the branch during the year.

GENERAL

The scarcity of suitable land in the metropolitan area for the disposal of garbage by burial continues to be a problem to many Councils. So much so, that other methods of disposal are being investigated. At least two of the metropolitan Councils are considering erecting and operating a large incinerator on a joint basis. Interest has also been shown in methods of composting garbage and departmental advice has been sought on the fundamentals and public health aspects of the processes involved.

Pollution of the metropolitan river systems and Botany Bay by industrial wastes and domestic drainage is still a major problem. Surveys conducted in a number of suburban districts were responsible for the detection and elimination of many sources of pollution. However, much still remains to be done in this field before the position can be considered satisfactory.

The increased popularity of swimming as a summer recreation has resulted in many of the metropolitan public pools being subjected to heavy bathing loads.

To prevent and remedy problems arising under these conditions regular inspections were made of all public baths. At the same time, the testing of pool water for pH, reserve alkalinity, free and total chlorine was performed by the inspecting officer.

NOXIOUS TRADES

Several prosecutions were launched against persons trading as pig keepers under the Noxious Trades Act, 1902. Most offences related to dirty premises. In an endeavour to raise the sanitation of such premises existing regulations are being reviewed.

Problems were also experienced in those trades in which rendering of meat industry by-products is carried on. These problems mainly arose from failure to control cooking vapours. At two premises difficult problems were resolved by requiring the installation of odour control equipment and by imposing restrictions on the types of material treated.

The expansion of the pet food industry has resulted in closer supervision being given to knackers' premises.

Due to current changes in operating procedures and trading practices, there is a need to review the regulations controlling knackers. Accordingly draft legislation is being prepared on this subject.

SURVEY SECTION

In May of this year, Mr N. Ryan, Surveyor, commenced duties with the Branch filling the vacancy, created in April, 1964, by the transference of Mr Surveyor McLeod to the Housing Commission.

During the year 449 surveys and 258 inspections of allotments of land notified under Section 55 of the Public Health Act were carried out, an increase of 116 and 127 respectively over last year's figures. No new areas were notified but notices over two areas were partially revoked.

Application for Search Certificates received numbered 76,159 a decrease of 2,881 from the previous year.

The staff establishment of this section is now complete and will allow further surveys to be undertaken in regard to the notification of unhealthy building land.

NEW DEVELOPMENTS

It has been found that the earlier types of septic tanks manufactured from fibre glass in this State, developed structural defects during handling and installation. These defects were such as to render the articles unsuitable for the purpose. As a result, the standards of construction for such appliances have been raised and inspections were made periodically of manufacturers premises to ensure that these standards were being complied with.

Another recent development in the treatment of domestic sewage was the omission of humus chambers from septic tank installations. It was found that these units could be safely omitted and thus result in a saving in installation costs.

STAFF TRAINING

Because of the considerable staff turnover, a system of in training for departmental health inspectors was commenced in the early part of the year. A manual of departmental procedures and practices was prepared to assist the Inspectors, in assimilating the knowledge imparted. The training of cadets in office procedure and field work was supervised by a newly appointed Training Officer.

Other in training courses in Dictation Techniques and Techniques of Management and Supervision were attended by the Chief and Deputy Chief Health Inspectors.

SPECIAL INVESTIGATIONS

Six cases of lead poisoning were investigated during the year. In each case the paintwork of the dwellings occupied by the patient was found to be in a deteriorated condition and having a high lead content. Following departmental investigations the paintwork was stripped from the premises concerned and repainting was carried out with a lead free paint.

A survey of pet food shops in the metropolitan area was carried out to determine the sources of meat supplied; types and quantities handled; the extent of observance of the knackers' regulations; and the standard of sanitation. Approximately 170 premises were inspected. The investigation did not disclose any serious breaches of the Noxious Trades Act, but did point to deficiencies in the sanitation of such premises. Accordingly action was taken to remedy the defects.

Submissions were also prepared in relation to the statutory control of retail pet food shops. This matter is still receiving attention.

VENTILATION TESTING OF THEATRES AND PUBLIC HALLS

In the past, tests to determine the adequacy of the ventilation in theatres and public halls in metropolitan and country areas were carried out from Head Office. This arrangement, although workable, often involved delays in the tests being completed. In keeping with the Department's policy of decentralization the testing of country installations is now being carried out by inspectors from the District Health Offices. In the metropolitan area, ventilation tests are undertaken by officers stationed at Head Office.

CONFERENCES

One two-day conference was held at Head Office for senior health inspectors. Topics discussed included procedures to be followed in the training of staff; noxious trades; powers of entry; the use of cement liners in lawn cemeteries and aerial spraying of insecticides. These conferences continue to afford a useful medium for the dissemination of knowledge on current trends and policies.

TABLE I—WORK PERFORMED BY HEALTH INSPECTORS IN METROPOLITAN AREA

	1965	1966
Sanitary Surveys of Local Government Areas	7	0
Shops and Buildings Inspected	735	28
Hotels and Boarding Houses	65	3
Public Halls and Theatres	33	1
Hospitals	24	2
Institutions	74	45
Schools	52	39
Barber Shops	15	2
Inspection of Dairies	10	0
Saleyards	9	2
Slaughtering Premises and Abattoirs	26	13
Camps, Showgrounds, Cemeteries, and Crematoria	10	45
Inspection of Noxious Trades Premises	1,103	1,032
Pig and Poultry Keepers	38	36
Flock and Bedding—		
(a) Inspection of Premises	8	9
(b) Samples Collected	10	9
Pet Food Shops and Knackeries	34	224
Nuisance Investigations	1,066	1,296
Personal and Telephone Complaints Received	1,059	969
Infectious Disease Investigations	2	2
River and Beach Pollution	186	164
Swimming Pools Inspected	50	177
Water Supplies Inspected—		
(a) Public	9	0
(b) Private	10	0
Swimming Pool Water Samples	104	122
Samples—		
Water, Trade Wastes, etc.	409	263
Other	306	50
Sewage Treatment Works Inspected	76	71
Inspection of Bores	15	9
Testing of Bores for Effluent Disposal	7	2
Septic Tank Applications submitted to the Department	8,535	7,963
Septic Tank Applications Recommended for Approval	7,369	6,942
Septic Tank Applications Refused	1,166	1,021
Septic Tank Installations Inspected	254	225
Septic Tank Manufacturers Design Plans examined	24	25
Inspection of Septic Tank Manufacturers premises	4	50
Inspection of Sanitary Depots—		
(a) Proposed	49	39
(b) Existing	176	385
Approval for Disposal of Nightsoil into Furrows	1	0
Scavenging District Proposed	5	1
Assisting Councils—Licensing Court, Land Court	8	6
Legal Proceedings for Department	8	4
Fines	\$270	\$100
Costs	\$12	\$45
Interviews, Architects, and Engineers, etc.	147	104
Unhealthy Building Land Inspections	131	258
Unhealthy Building Land Surveys	333	449
Areas Revoked	1	2
Land Enquiries	79,040	76,159
Reports on Unhealthy Building Land	464	707
Branch Records—New Registrations	9,537	8,827

Food Inspection Branch

Location: 52 Bridge Street, Sydney

STAFF

Chief Inspector W. J. Madgwick; Deputy Chief Inspector J. W. Wing; Six Senior Food Inspectors; Seventeen Food Inspectors; One Attendant.

Note (1). Of the six Senior Food Inspectors referred to above, one is detached for duty at each of the following Health Districts: North Coast, South Coast, North Western, Western, Newcastle and Riverina and one Food Inspector is detached for duty at each of the Health Districts of the North Coast, South Coast, Western and Newcastle.

Note (2). This report does not include the work carried out in the aforementioned Health Districts.

ACTIVITIES

The work of the Branch is primarily concerned with the supervision of the sale of food and drugs in regards to their composition, identity and labelling, the structure and condition of premises in which they are manufactured, prepared, stored and sold; the inspection of the equipment, appliances and vehicles used; the incidental duties associated with matters to secure the wholesomeness, cleanliness and freedom from contamination of food and drugs; and the implementation of the legal provisions required by the Pure Food Act 1908 as amended.

PREMISES

The relatively few prosecutions undertaken against traders, for failing to keep their premises clean indicated a satisfactory situation in this aspect of food inspection. Of 12,286 premises inspected only 19 traders were proceeded against and convicted for this offence.

Insect infestation of premises accounted for an additional 16 prosecutions and there were 334 notices served on food operators to remedy, renovate or effect structural alterations to their premises.

FOOD SAMPLES

Meat samples field tested by officers for the presence of preservative numbered 8,432 and spirit samples field tested for the presence of added water totalled 4,017.

There were 360 prosecutions instituted for the sale of adulterated meat and 23 for the sale of adulterated spirits.

Of 53 butter samples submitted for analysis 5 were found to contain in excess of the 16 per cent water content prescribed and prosecutions were successfully instituted in each case.

Although it is usual nowadays to find "blown" cans of food exposed for sale, 3 such prosecutions were successfully instituted against traders for selling cans of fish which were in a "blown condition".

Milk in general was found to be in accordance with the prescribed standard, there being only 71 samples of 3,476 submitted for analysis which were adulterated.

A wide variety of other foods were also purchased and submitted for analysis, most of which complied with the standards prescribed for them.

SEIZURES

Food placed under seizure by officers and destroyed on the grounds of it being unfit for human consumption totalled over 75 tons in addition to 2,118 tins, 100 cases, 52½ gallons and 21,487 head of poultry.

GENERAL BREACHES

The principal general breaches of the Act and Regulations for which prosecutions were instituted were for the following offences (1) Smoking whilst handling food, (2) Food exposed to contamination, (3) Unclean utensils, (4) Failure to colour waste beer, (5) Use of private motor cars for the carriage of food and (6) Sale of pet meat in butcher shops.

Five restaurant proprietors were also convicted and fined for storing horse meat in their restaurant kitchens. In 4 of the cases there was a strong presumption that the horse meat was served as filet mignon and carpet bag steaks.

INSPECTION OF DEPARTMENTAL HOSPITALS CHILD WELFARE AND PRISON DEPARTMENT ESTABLISHMENTS

Advice on pure food matters was given by means of inspections and reports by the Branch Inspectors to Departmental Hospitals, Child Welfare and Prison Department establishments in 35 instances.

PUBLIC RELATIONS

In addition to his weekly participation in Radio 2GB's session "I'm on your side", the Chief Food Inspector appeared in television programmes in Sydney, Wollongong and Lismore. He also gave addresses to 26 food industry and consumer organizations and contributed 3 articles to food trade journals.

TABLE 1.—SUMMARY OF WORK PERFORMED BY PURE FOOD BRANCH (CENTRAL ADMINISTRATION)
FOR THE YEAR ENDING 31ST DECEMBER, 1966.

<i>Food and Drugs other than Milk</i>									
Number of samples taken .. .. .	..	..	..	..	..	..	..	..	4,060
Number below standard .. .. .	..	..	..	..	..	..	..	..	521
Number of warnings .. .. .	..	..	..	..	..	..	..	..	124
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	397
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$10,574.30
<i>Milk</i>									
Number of samples taken .. .. .	..	..	..	..	..	..	..	..	3,476
Number below standard .. .. .	..	..	..	..	..	..	..	..	71
Number of warnings .. .. .	..	..	..	..	..	..	..	..	15
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	56
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$740.40
<i>Samples Field Tested</i>									
Mcat (fresh) 8,432 Spirits 4,017 .. .. .	..	..	..	..	..	..	..	..	12,449
<i>Food and Drugs unfit for Human consumption, seized and destroyed</i>									
The seizures and destructions comprised over 75 tons, 2,118 tins, 100 cases and 52½ gallons and 21,487 head of poultry.									
<i>Inspection of premises used for the preparation, sale and storage of food and drugs</i>									
Number of inspections .. .. .	..	..	..	..	..	..	..	..	12,286
Number of warning notices .. .. .	..	..	..	..	..	..	..	..	334
Number of prosecutions for unclean premises .. .. .	..	..	..	..	..	..	..	..	19
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$896.00
<i>Particulars of general breaches of the Pure Food Act and Regulations</i>									
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	168
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$4,012.00
<i>Action taken under other Acts</i>									
Number of prosecutions (Local Govt. Act) .. .. .	..	..	..	..	..	..	..	..	2
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$95.00
<i>Other matters</i>									
Number of complaints investigated .. .. .	..	..	..	..	..	..	..	..	1,268
Inspections of Government establishments and hospitals .. .. .	..	..	..	..	..	..	..	..	35

TABLE 2.—SUMMARY OF LEGAL PROCEEDINGS, 1966.

Offences under the Pure Food Act and Regulations								Number of Prosecutions	Amount of Fines and Costs
Adulterated foods and drugs								397	\$ 10,574.30
Adulterated milk								56	740.40
Unclean premises								19	896.00
General breaches								168	4,012.00
<i>Other Acts—</i>									
Local Government Act								2	95.00
Totals								642	\$16,317.70

TABLE 3.—SUMMARY OF THE WORK CARRIED OUT BY THE PURE FOOD BRANCH (CENTRAL ADMINISTRATION) UNDER THE PURE FOOD ACT, FROM THE DATE OF ITS OPERATION, OCTOBER, 1909, TO 31ST DECEMBER, 1966.

	No. of premises inspected	Total No. samples taken	Total below standard	Prosecutions	Amount of fines and costs
Premises inspected	534,331			3,296	\$ 50,462.00
Breaches of Act and regulations				6,393	73,148.00
Milk samples		409,764	13,707	8,986	94,302.40
Food and drug samples		278,318	24,299	17,940	211,852.30
Food and drug seizures				435	4,090.00
Totals	534,331	688,082	38,006	37,050	433,854.70

FOOD AND DRUG SAMPLES

Particulars of Samples of Food and Drugs taken for analysis by officers of the Food Branch during the period 1st January—31st December, 1966.

Samples	No. of samples	No. of warnings	No. of prosecutions	Fines and costs
Ales and Beer	35			\$
Bacteriological	215			
Bread	9			
Breakfast food (cats)	1		1	32.00
Butter	53		5	94.00
Chocolate	2			
Condiments	14	3		
Cordials and Soft Drinks	63			
Cream	117			
Drugs	3			
Essences	20			
Fats and Oils	16		3	84.00
Fish and Canned Fish	28	1	3	106.00
General—Miscellaneous	39			
Ice Cream and Ices	25		1	2.00
Jam	2			
Margarine	10			
Meat and Smallgoods	3,348	120	360	9,850.30
Meat (Malachite tested—8,432)				
Milk	3,476	15	56	740.40
Pastry (Apple Pie)	1		1	27.00
Spirits	27		23	379.00
Spirits (Tested 4,017)				
Vegetables—canned	14			
Vinegar	2			
Wine	16			
Foreign matter in food—(identification of 25)				
Totals	7,536	139	453	11,314.70

SEIZURES

Particulars of Foods and Drugs seized as Unfit for Human Consumption and destroyed during the year ending 31st December, 1966

Food	Tons	Cwt	Qtrs	lb	Other amounts
Confectionery		17	2		
Cheese	9	4	2	13	
Cocoa beans		8			
Cordials and juices					52 gallons
Fish	3	7	1	18	1,942 tons and 100 cases.
Flour		3			
Fruit, dried	37	14			
Fruit, preserved		7	3		700 tins.
Groceries, assorted	4	15			
Ice cream mix					$\frac{1}{2}$ gallon.
Meat		5	1	22	
Milk powder	1	14			
Nuts	5	12	1	21	
Olives	2	13	2	8	
Pickles (Gherkins)	8				
Poultry					21,487 head.
Sauces and condiments					476 tins and 40 bottles.
Spirits					17 bottles.
Totals	75	2	2	26	21,487 head. 52 $\frac{1}{2}$ gallons. 2,118 tins. 100 cases. 57 bottles.

Particulars of Inspections by Officers of the Pure Food Branch during 1966

District						No. of Inspections	No. of warning notices	No. of prosecutions	Fines and costs
METROPOLITAN—									\$
Ashfield						289	8		
Auburn						410	5		
Bankstown						658	6	1	72.00
Baulkham Hills						89	2		
Blacktown						281	5	2	134.00
Botany						185	7		
Burwood						345	7	1	42.00
Camden						9	3		
Campbelltown						57		1	62.00
Canterbury						484	6	1	2.00
Concord						103	2		
Faifield						324	8		
Drummoyne						194	4		
Holroyd						286	3		
Hornsby						315	12		
Hunters Hill						60	1		
Hurstville						370	5		
Kogarah						222	6	1	102.00
Ku-ring-gai						238	6		
Lane Cove						156	1		
Leichhardt						371	13	2	32.00
Liverpool						120	6	1	27.00
Manly						288	2		
Marrickville						494	14		
Mosman						196	9		
North Sydney						344	21		
Parramatta						572	15	4	188.00
Penrith						179	1	2	39.00
Randwick						423	17		
Richmond						3			
Rockdale						430	7		
Ryde						477	5		
Strathfield						140	7		
Sutherland						240	1		
Sydney						1,355	42		
Warringah						452	11	1	52.00
Waverley						306	16	2	144.00
Willoughby						409	9		
Windsor						53	2		
Woollahra						279	11		
Total						12,206	334	19	896.00
COUNTRY—									
Broken Hill						80			
Grand Total						12,286	334	19	896.00

Particulars of General Breaches of the Pure Food Act and Regulations undertaken by Officers of the Pure Food Branch during 1966.

Offence						No. of Prosecutions	Fines and Costs
							\$
Bags on dough						1	22.00
Smoking and using tobacco on food premises						79	1,780.00
Unlabelled oysters						1	12.00
Food including bread exposed to dust						39	791.00
Unwrapped food exposed on shop counters						5	100.00
Sale of meat from other than a butchers shop						4	75.00
Fly infested premises						2	69.00
Cockroach infested premises						14	373.00
Unelean utensils						2	84.00
Pets meat sold in butchers shop						3	90.00
No methyl violet in waste beer						2	32.00
Receptacle in drip tray						1	22.00
Use passenger vehicle for earriage of food						3	46.00
Bread returned to delivery vehiele						2	40.00
Unclean delivery vehiele						3	64.00
Refuse to state name and place of abode						1	31.00
Store horse meat in place used for meat storage						5	365.00
Improperly wrapped bread						1	16.00
Total						168	\$4,012.00

Particulars of Samples of Milk and Meat submitted for analysis by authorized Officers employed by Councils from the period 1st January to 31st December, 1966

MEAT AND MILK

Nil.

*Particulars of General Breaches of the Act and Regulations, instituted on Board of Health approval, by
Authorized Officers of Council.*

Council	Particulars of Offence	No. of Prosecutions	Fines and Costs
Leichhardt	Bread exposed to dust	3	\$ 107.00
	Unclean premises	1	32.00
	Butchers shop within another shop no Board of Health approval	1	33.00
	No hot water in butchers shop	1	33.00
	No wash hand basin	1	33.00
	Improper storage of wastes	1	33.00
	Premises not fly proofed	1	33.00
	Copy Regulation 78 not displayed	1	33.00
Mosman	Unclean premises	1	61.00
	Totals	17	398.00

Private Hospitals and Rest Homes

Medical Officer in Charge: J. R. RADCLIFF, M.B., B.S., D.A., F.F.A.R.C.S.I.

Location: 52 Bridge Street

FUNCTION

This section during 1966 has continued to supervise private hospitals and rest homes under the licensing provisions and standards prescribed by the Private Hospitals Act, 1908-1964. It is staffed by a medical officer and three supervisory sisters.

Staff permitting, premises are routinely inspected at least twice per year. Considerable time is spent in advising on new projects and alterations and in ensuring that premises reach the standards required on transfer.

METROPOLITAN AREA

This extends as far as Kurrajong, Penrith and Camden, and the central administration also supervises schedules for the Board of Health from the Health Districts. Some relevant statistics are tabulated below.

[illegible]

Accommodation in Metropolitan area.

During 1966 two private hospitals (total 10 beds) closed; 16 private hospitals (301 beds + 4 cots) were redesignated as rest homes; one rest home (21 beds) was redesignated as a private hospital six rest homes (56 beds) closed and 15 rest homes (393 beds) opened. A number of premises were enlarged.

At the end of 1966 there were in the metropolitan area
111 private hospitals (3,716 beds and 150 cots)
317 rest homes (9,332 beds and 87 cots)
making a total metropolitan accommodation for 13,285 patients.

HEALTH DISTRICTS

The functions of this branch in the Health District are performed by the Medical Officer of Health and appear in their reports, but schedules for the Board of Health are processed by the Metropolitan Branch.

During 1966 six private hospitals (total 22 beds) were closed, three private hospitals (84 beds) were converted into rest homes and one new hospital (15 beds) opened, three rest homes (48 beds) closed and seven rest homes (262 beds) opened.

At the end of 1966 in the Health Districts there were 42 private hospitals (673 beds and 134 cots), and there were 57 rest homes (1,426 beds).

ACCOMMODATION AVAILABLE IN NEW SOUTH WALES

This table shows the accommodation available in the whole of New South Wales for the last six years.

Year				Private Hospitals		Rest Homes	
				Beds	Cots	Beds	Cots
1961	..	..	..	4,131	191	5,680	58
1962	..	..	..	4,295	231	6,399	58
1963	..	..	..	4,619	252	7,497	49
1964	..	..	..	4,477	266	8,584	55
1965	..	..	..	4,433	273	9,358	71
1966	..	..	..	4,389	284	10,758	87

At the end of 1966 there was in New South Wales accommodation for a total of 15,518 patients.

COMMONWEALTH DEPARTMENT OF HEALTH

Approval of premises for the payment of medical benefits is a function of the Commonwealth Department of Health which accordingly carries out inspections. The functions of the New South Wales and Commonwealth Departments are complementary and a harmonious relationship exists.

The Division of Health Education

ORGANIZATION

In the latter part of 1966, the steady growth of health education activities of the Department over the past two years culminated in the granting of divisional status to this aspect of preventive medicine.

The Publicity Branch, renamed the Information Services Section, the Nutrition Section, renamed the Nutrition Education Section, and the research and training unit were brought together in the re-organization under the control of a Director of Health Education. The first Director is Dr S. J. Krister, formerly Health Educationist to the Department.

Under the guidance of the Health Education Advisory Council, a pilot field project in Health Education of the public was begun in the Ryde Area, staffed by a Tutor located at the Ryde Child Health Centre.

The Director was one of two Australian delegates to the first Western Pacific Conference on Health Education of the World Health Organization, held in Manila in January. Australia was honoured by his election as general rapporteur for the meeting. The Director was also invited to attend a major conference on health education organized by the South African Medical Association. A paper on evaluation in health education was forwarded in absentia.

In March the States Health Education Co-ordination Committee met in Perth. The principal topic for discussion was the need for training of health workers and teachers in health education and possible means to implement it.

Staff as at 31st December, 1966

						Established	Actual
Director, Medical Officer..	..	..	..	..	..	1	1
Information Services—							
Publicity Officer	..	..	..	..	..	1	1
Assistant Publicity Officer	..	..	..	..	..	1	1
Clerical Officer	..	..	..	..	..	1	1
Projectionist ..	..	..	..	..	..	1	1
Storeman Packer	..	..	..	..	..	1	1
Nutrition Education—							
Senior Dietitian	..	..	..	..	..	1	1
Dietitian ..	..	..	..	..	..	5	4
Research and Training—							
Research Officer	..	..	..	..	..	1	1
Education Officer	..	..	..	..	..	1	1
Tutor .. ..	..	..	..	..	..	1	1
Clerical—							
Office Assistant	..	..	..	..	..	2	2
Total	..	..	..	..	..	17	16

Staff Training

The development of new activities in health education which involve the services of social science and teaching staff has necessitated a programme of in-service training to orientate the new appointees in public health services, objectives and needs, as well as in specific areas of educational and social theory and practical communication skills.

The Research Officer attended the Public Service Board In-Service Training Course on "The Methods of Instruction".

In May, 1966, the Tutor attended a two week residential course on Extension Service Methods, conducted at Hawkesbury Agricultural College under the auspices of the Department of Agriculture. The course was concerned with establishing relations and working with the community. In September he attended a course of twenty-four lectures and group discussions on Group Work. This course of lectures was part of the Youth Leadership Diploma Course conducted by the Physical Education Branch. During the month of November he attended a course of ten lectures on Group Dynamics at the Sydney University under the direction of Mr J. Cullen.

Health Education Committees

The Health Education Advisory Council continued to supervise the research into adolescent attitudes towards health and health services which is being undertaken at the University of New South Wales. An interim report was produced which drew attention to the part which must be played by the education authorities in developing mature and well motivated individuals as regards personal and community health.

The School Health Sub-Committee continued to co-operate with the Education Department in preparing for the implementation of secondary schools health education. Miss K. Flanagan was appointed Secretary of the School Health Sub-Committee of the Health Education Advisory Council vice Mr G. Keep.

A Standing Research Committee of the Council was formed under the Chairmanship of Professor J. Clark, and Miss J. Bluett was appointed Secretary.

In addition to the Departmental Committees, the Division was represented on the following external bodies which are closely concerned with health education:

- The Dental Health Education and Research Foundation (Planning Committee).
- The Mental Health Association (N.S.W.) (Executive).
- The Road Safety Council (N.S.W.) (Management Council).
- The Australian Council on Smoking and Health (Executive).
- The New South Wales Film Council.
- Health Week Council.
- Foundation for Research and Treatment of Alcoholism.
- Physical Education and Health Syllabus Committee, Secondary Schools Board.
- Education Department Committee on Teacher Training in Health.
- Australian Medical Association (N.S.W. Branch) Committee on Venereal Disease.

Liaison with Community Group Active in Health Education

The Division maintained contact with, and provided consulting services for, many organizations whose specific or general community functions and interests include health education.

A study of community health education activities was begun by an investigation of the activities of 120 such organizations. Many of them were found, as was expected, to be exerting educational influence in the community although they were sometimes not clear about the meaning and scope of the term "health education." As a result of these preliminary enquiries, liaison with interested groups expanded rapidly.

SCHOOL HEALTH EDUCATION

Health education of school children has been given priority of attention in the early years of the Division. In 1966 final arrangements were made for the implementation of the new health education course for all secondary school children. A group of schools was selected for pilot introduction of the course at the beginning of 1967 and teacher training seminars were held in various parts of the State to familiarize teachers of the new syllabus with its objectives. A revised syllabus of health education was also introduced for primary schools and an in-service course for primary teachers was held during the summer vacation.

As a result of the representations from the Health Education Advisory Council, the Education Department appointed an Adviser in Health Education to supervise the introduction of the new syllabus. The Adviser, Mr A. Colvin, joined the Health Education Advisory Council and the closest possible liaison has been established with him.

The Division arranged an in-service course for teachers at Yagoona Child Health Centre as a pilot scheme which could be adopted by all Child Health Centres for teachers in their own areas. It was a success in several senses, a closer relationship having been established between teachers and the Centre. Two well attended Seminars were also conducted for Supervisors of Girls at Metropolitan and Western Departmental Schools.

One of the most important activities of the year in school health was the Director's participation in a working party to recommend suitable pre-service and extension training for the future specialist teachers of health in secondary schools. The working party prepared proposals for a course equivalent to a full years' training to qualify the teacher for a certificate in health education, the first in Australia. A further recommendation was the establishment of a full department or sub-department of health education in those Teacher Training Colleges which would carry out the training. Such a department replace the present part-time lecturing function of the College Medical Officers. Approval is awaited.

In support of teacher training programmes there is a great need for the production of resource materials to aid the teacher in presenting the subject in school.

A beginning was made in 1966 by distributing a comprehensive unit on smoking and health. In preparation also were units on mental health education, nutrition education, family life and sex education and anatomy and physiology.

COMMUNITY HEALTH EDUCATION PROGRAMMES

Nutrition

Thirty-three talks were given to members of various organizations, mainly View Clubs and Schools. These included the Belmore, Bondi, Cambelltown, Campsie, Caringbah, Cronulla, Denistone, Eastern Suburbs, Kogarah, Northern Line, Picton, Potts Point, Roselands, Rydalmere, Sylvania Waters and Turramurra View Clubs; the Ashcroft, Busby, Casula, Earlwood, Green Valley, Heckenburg, Liverpool, Liverpool West, Miller, St. Ives, Sadlier and West Pennant Hills Primary Schools' Mothers Clubs, the Crusader Kindergarten Mothers Club; the Sylvania Branch of the Save Our Childrens Fund; the Campbelltown Quota Service Club; the Pennant Hills Congregational Church; and the Junior Red Cross.

Seven prenatal clinics were attended weekly. They were at Manly, Dee Why, Blacktown, and two each at Parramatta and Liverpool. The clinic for overweight children at Forest Lodge Child Health Centre was conducted weekly during the school year.

Twelve lectures were given as part of twelve series of eight lectures for expectant mothers attending Parramatta, Liverpool and Dee Why prenatal clinics. Eight lectures were given for expectant mothers attending prenatal classes at Karitane, Woollahra.

Numerous enquiries on all aspects of food and nutrition were given service. There were also many requests for therapeutic diets and these included diets for hiatus hernia and homocystinuria for the first time.

A visit was made to Berkeley Migrant Hostel, Wollongong at the request of the management and a report made on the adequacy and suitability of the diet.

Weekly articles and radio scripts (300–500 words) were prepared for circulation to Editors of approximately 300 country and suburban newspapers and forty radio stations. Three tape recordings were made for inclusion in their Women's Session by the Australian Broadcasting Commission. An article was prepared for the Departmental Bulletin, *Health in New South Wales*, and another for *The Farm Home*. A calorie chart published by the *Women's Weekly* was revised.

Tuberculosis

The Department again undertook a vigorous publicity and health education campaign in regard to tuberculosis. Extensive use was made of press and radio advertising, and to a minor extent television, to publicize the Department's chest X-ray surveys. A wide display of posters was made during the year. Many screenings of the Department's film on tuberculosis were requested.

Venereal Disease

Lectures on venereal diseases, pregnancy and childbirth were given to each of three groups of girls, and one to the staff, at the Parramatta Training School for Girls. Written material, photographs and slides were also provided for Dr Sullivan who conducted similar courses at the "Minda" Remand Centre. Lecturers on V.D. were given to the inmates at Emu Plains Training Centre. Although attendance was voluntary, a large and interested audience was present. These activities with V.D. reservoir groups were considered to be of some importance and are being continued.

In November, a lecture on V.D. was given to the Australian Red Cross Society.

In August, a test of students' knowledge of V.D. was made at a Teacher Training College. Miss Bluett analysed the results of this test which indicated a need for educating trainee teachers in V.D.

Material on V.D. educational programmes was prepared for the Australian Medical Association (N.S.W. Branch) Committee studying venereal disease and has since been incorporated in the final Federal Australian Medical Association Report.

The Division was represented at a residential seminar on sex education and venereal disease held by the Father and Son Movement.

Immunization

An information campaign on the subject of immunization against poliomyelitis and other diseases was again held. A feature of the campaign was the use of press and radio advertising directed at various foreign language speaking sections of the community.

The results of the small scale study of parent attitudes to immunization carried out in a Sydney working class suburb after a local publicity campaign in 1965 were analysed. They indicated that the overall acceptance of immunization was probably quite good. At least 60 per cent of the total sample of parents immunized their babies in good time, 10 per cent were tardy in beginning and possibly inadequate in completing immunization. A number of the latter had received conflicting advice from various sources. Twenty per cent were untraceable at the end of the study, having moved house at least twice; they may be presumed to have a less satisfactory experience than the stable families. The main factors distinguishing parents who promptly immunized were—

- (a) past personal and social experience of immunization;
- (b) attendance at a Baby Health Centre.

It is noteworthy that only one-third of the families studied stated that they had observed the publicity given in the local press weekly for a period of four months. This finding is in accord with our earlier study of a mass information programme which had no measurable effect on the community. The absence of immediate concern with infectious disease means that a high intensity stimulus has to be provided before action is taken.

Smoking

Resource materials on smoking and health were forwarded to every school in the State for use by teachers. A number of smoking and health exhibitions were held and mass media releases were frequently made.

Health Week 1966

This campaign is organized by the Information Services Section, in collaboration with the New South Wales Health Week Council, the Publicity Officer acting as the Council's Secretary. The campaign was conducted on open lines with the slogan "Take Time to be Healthy". Emphasis was placed on the numerous health services provided for the prevention of sickness and their fuller use encouraged. The need for continued observance of personal and communal hygiene was stressed.

Notes for radio talks and newspaper articles were distributed. Two essay competitions were held in which primary and secondary school children were invited to compete. Another popular competition was a children's television poster competition conducted in collaboration with the Australian Broadcasting Commission. Seventy thousand copies of Health Week newspapers were again published in the metropolitan area and this again proved most successful. One hundred thousand copies of a special Health Week pamphlet were again issued.

An International Health Poster Exhibition was held. This was made possible by the co-operation of the Commonwealth Savings Bank which made space available for the purpose. Twenty-two nations contributed to the display which, it is understood, was the first of its kind to be held in the Commonwealth.

General Comment

While a considerable amount of effort was spent on community programmes, using both impersonal and personal approaches, large gaps remained in many important fields in which continuous programmes are necessary such as:

- mental health education
- drugs and alcohol
- domestic and recreational safety
- care of the aged
- dental health
- food handling and many others.

The attention of the Health Education Advisory Council has particularly been drawn to the problems of drug abuse and venereal disease in young people by the Seminar on Drug Abuse held by the Law Faculty and by the Australian Medical Association.

TRAINING OF HEALTH WORKERS IN HEALTH EDUCATION

A short course in health education was given to the in-service public health nursing course. Health education lectures were also given to medical, dental and social work undergraduate students at the Universities of Sydney and New South Wales, and the postgraduate students of the Diplomas of Public Health and Public Health Dentistry.

The Division held or participated in Health Education Seminars for practising dentists, dietitians Red Cross Youth Leaders, occupational health nurses, social workers, supervisors of girls in secondary schools and sex education movements. A variety of training publications on health education topics was produced for these educational activities.

In the nutrition education field, lectures and cookery classes were given to junior and senior Trainee Nursing Assistants at Lidcombe State Hospital. Two courses of ten lectures were given to Kindergarten and Sydney Day Nursery Training College students. Two courses of four lectures were given to students at the Karitane Mothercraft Training Centre, a course of four lectures to the Public Health Nurses and three lectures were given to Occupational Health Nurses at the New South Wales College of Nursing. Three lectures were given for social work students at the University of New South Wales and four lectures for Trainee Officers of the Department of Child and Social Welfare.

The Pilot Scheme for Field Health Education Training

In August, 1966, the Tutor appointed to take charge of this programme was established at the Ryde Child Health Centre. Since appointment he has made contact with many organizations in the area and has given a number of talks to explain the purpose of the unit to the local community. He has been particularly well received by the Ryde community and has prepared a tentative programme for health education in a number of areas.

Unfortunately, the accommodation available for this programme has proved inadequate and alternatives are being explored.

HEALTH EDUCATION RESEARCH

Health Attitudes

The study of Health Attitudes of Adolescents begun in 1964 at the School of Applied Psychology, University of New South Wales and supported financially by the Department, continued during 1966 and an interim report was produced. While the study will investigate teacher-trainees and industrial groups before its completion, the interim report has demonstrated a marked lack of confidence in many young people with regard to decision-making in health matters. It has underlined the need for the health course in secondary schools recently introduced and has suggested that too little attention is at present being given to health training of the young child.

Dentist-Patient Relationships

A report on the study of dentist-patient relationships and dental health attitudes carried out under the auspices of the Dental Health Foundation and assisted by the Division was published. Numerous recommendations were made regarding the selection and training of dental students in health education.

Food Consumed at School by School Children

The report of this study was completed, drawing attention to the low protein intake at school of some children, the continuing necessity for free school milk and the need for continuous health education activities with school canteen committees.

Review of Health Education Research in Australia

A study of the literature was put in hand to systematically classify research in health education and related fields in the past five years. Special attention was given to the literature of research into attitudes towards cancer screening and tuberculosis, two areas in which new health education programmes are planned in the next few years.

Immunization Attitudes Study

The results of this study were sorted and coded for analysis.

Pretesting and Evaluation of New Publications

Draft publications were prepared on—

Drug Dependence (for adolescents)

Skin Care (for adolescents)

Preparation for Retirement.

Evaluation techniques and instruments were designed in preparation for pretesting these publications in 1967.

THE INFORMATION SERVICES PROGRAMME

The Publicity Officer and his staff continued to promote health information and public relations programmes. All media were employed, including pamphlets, posters, films, displays, press, radio, television.

An increasingly heavy demand was again placed upon the section for printed educational material. Distribution was chiefly to local authorities, schools and Baby Health Centres. The extension of health education programmes in Health Districts continued to create a further demand for material. Total approximate distribution figures are as under:

Posters	..	..	..	..	..	..	..	..	..	36,400
Pamphlets	..	..	..	..	..	..	..	832,600		
Booklets	..	..	..	..	..	..	..	254,600	1,087,200	
										1,123,600

Medical Records, Polio (Adult) and Polio (Children) cards distribution figures amounted to approximately 61,550, 11,800 and 40,900 respectively.

Especially heavy demands were made for “*Our Babies*”, “*Healthy Motherhood*”, “*Food and Nutrition*”. The National Heart Foundation requested authority to re-print a special large edition of *How to Lose Weight Wisely* for National Heart Week and similar requests have since been received from other States.

The *Guide to Canteen Committees* was issued by the National Health and Medical Research Council on an Australia wide basis. Many out-State and overseas requests have been received for the “Smoking and Health” kit for teachers. The second edition of the *Handbook for Medical Practitioners*, revised and enlarged was distributed to all medical practitioners in the State and to interested enquirers in other States.

The Gluten and Wheat Free Diets and the Low Cost Food Budget were revised. Over one hundred gluten free and wheat free recipes included in this material were tested by the Nutrition Education Section.

The quarterly journal of the Department, *Health in New South Wales*, continued to be popular and the circulation was increased during the year to 16,760. The quarterly Newsletter for Medical Practitioners continued to be well received, its circulation being increased during the year to 5,600 copies.

All metropolitan, suburban and country papers were supplied with weekly press articles during the year. Every opportunity was taken to provide material of a topical nature. Weekly broadcast scripts were sent to all radio stations.

Extensive use was again made of the Department's 16 mm film resources. Three hundred and five screenings were carried out by the Section to a total audience of 7,924. The demand by borrowers on the Department's film library continued to increase. Film loans during the year totalled 2,707 (the highest on record). These were screened to a record audience of 61,761. Fifty-three new films were added to the Department's library.

During the year steps were taken to add to the Department's library of film strips. A special series of transparencies were produced covering the activities of the Department.

A heavy demand was made during the year on the Department's resources for exhibitions and display material. Displays were exhibited during the year as under:

Exhibits

Royal Easter Show: 1st to 12th April, 1966. For the fourth time the Department was an exhibitor at the Royal Easter Show, 1966. The main features of the exhibition was the screening of health films and emphasis was again given to the subject of "Smoking and Health".

Warragamba State Fair: 14th and 15th May, 1966. An exhibit was entered at the above Fair, featuring the work of the Department with emphasis on activities in the field of child health.

International Engineering Show: 15th to 20th August, 1966. An exhibition was entered in the above Show highlighting health hazards in industry and featuring the various services of the Division of Occupational Health.

Waratah Spring Festival: 8th October, 1966. For the fourth occasion the Health Department entered a float in the procession held conjointly with the above Festival. Our display featured the theme "Health, Your Greatest Asset".

Health Week: 17th to 22nd October, 1966. Once again the Department provided a major exhibit at the Health Week Exhibition at the Sydney Town Hall.

Old Peoples Week: 8th to 10th November, 1966. A Departmental exhibit was arranged in the Town Hall during Old Peoples Week, conducted by the Old Peoples Welfare Council.

Country Shows

A number of exhibits were entered in country fairs and shows by the Medical Officers of Health in Health Districts.

For the first time, limited financial provision was made for such local exhibits and other forms of assistance were also provided by the Section.

Published Papers

The Director published the following papers in 1966:

1. "Education for Healthier Living", Med. Jnl. of Australia Apr, 23, 1966.
2. "The Community Nurse as Health Educator", Aust. Nursing Jnl. Mar., 1966.
3. "Health Education of Youth, Whose Responsibility", Leader Dec. 66.
4. "Health Education and the Health Surveyor", Health and Building, July 1966.
5. "An Epidemiological Approach to Road Accident Prevention" Public Health, Mar.66.

CONCLUSION

The year 1966 was an extremely busy one for the Division. However, it served only to emphasize the very great and increasing need for health education activities of all kinds; frequently emphasized by statements of important authorities concerned with the public welfare. Large gaps remain to be filled in regular programmes concerned with major health problems. The editorial demands of our many publications strained our resources to the utmost. The broad needs in health education allowed us to provide only thin coverage and some re-organization will be essential in 1967.

Medical Examination Centre

Medical Officer in charge: J. M. ORR, M.B., B.S.

Location: 86-88 George Street North, Sydney

FUNCTIONS

Established in May, 1963, the functions of the Centre have continued to expand and now comprise the following.

- (1) Medical Examination of Candidates for employment in 45 Public Service Departments including the Teaching Service, whether permanent or temporary.
- (2) Examination of Candidates seeking employment in a total of 28 Allied Services.
- (3) Medical Examination to determine fitness for admission to the State Superannuation Fund.
- (4) The examination of Trainees both for the Education Department and Public Service Board Trainees.
- (5) Medical assessment of fitness to continue in employment and fitness to continue traineeships. The Centre is responsible for decisions concerning premature retirement on medical grounds.
- (6) Special Examinations are carried out when required, and these include lantern tests of colour vision, fitness for employment as fumigators, fitness to work as divers and fitness for the award of full sick leave privileges. The Centre conducts examinations in connection with Public Service Board Appeals, and where doubt exists regarding the issue of a driving licence. Audiograms and Electrocardiographs are carried out, and the services of Specialist Psychiatrist and Cardiologist are available at the Centre. Other Specialist opinions are arranged when required and the Centre also uses the facilities of the Institute of Clinical Pathology and Medical Research and the Psychiatric Research Unit and Tuberculosis Division when necessary.
- (7) Examinations are carried out to determine fitness to resume duty following premature retirement on medical grounds.
- (8) Many examinations are arranged in Country Areas, Interstate and Overseas, and the results assessed at the Centre.
- (9) Ex-Servicemen are examined to determine whether their war-caused disabilities warrant the granting of travel concessions.
- (10) Members of the general public are vaccinated on request.
- (11) Examinations for Superannuation conducted by the Medical Officers of the Water Board and Electricity Commission are assessed.
- (12) Medical Certificates of non-pathological illness are assessed and examination arranged when indicated.
- (13) Home or hospital visiting of employees not fit enough to attend for examination.
- (14) When the First Aid Centre of the new State Office Block is opened its Supervision will be the responsibility of this Centre.

STAFF

The Centre is staffed by a Medical Officer in Charge, 4 Permanent Medical Officers, 2 Nursing Sisters, 2 Clerical Officers, 9 Office Assistants and 2 Shorthandwriter Typists. Provision has been made for the regrading of one Medical Officer to Senior Medical Officer and an additional Nursing Sister will be employed when the State Office Block First Aid Centre commences to function.

During the year the total number of examinations conducted at the Centre has increased by 12 per cent.

MEDICAL EXAMINATIONS

Teachers and Trainee Teachers

The following examinations have been carried out at the Medical Examination Centre.

	1965	1966
Full medical examinations of Teachers College Entrants	35	151
Full medical examination to determine fitness for permanent employment and admission to the State Superannuation Fund	949	1073
Examination of Applicants for employment as temporary teachers	1145	1208
Sick leave cases	187	90
Review Examinations and re-examinations	36	26
Psychiatric Examinations	513	555
	2865	3103

The results of the following examinations were also assessed at this Centre.

	1965	1966
Students seeking entry to Teachers College	3,404	3,271
Students graduating from Teachers College	2,475	2,572

This Centre also arranged for the following examinations of Teachers to be carried out in country areas and the results were then assessed at this Centre.

	1965	1966
Full examination for permanent appointment and admission to the Superannuation Fund	159	394
Examination of applicants for employment as temporary teachers	706	660
Sick leave cases	65	57
Other examinations including x-rays and examination for overseas exchange	165	136
	<u>1,095</u>	<u>1,247</u>

During the year 37 Teachers were retired on medical grounds, 13 of these retirements being for psychiatric reasons and 24 for general medical disorders.

The following conditions were responsible for these retirements.

				1965			1966		
				M.	F.	Total	M.	F.	Total
Cardio Vascular Disease	..			9	5	14	8	1	9
Mental Illness	..	..	..	12	10	22	4	9	13
Disease of Central Nervous System	..	..	..	4	3	7	4	1	5
Kidney Disease	..	..	..	0	0	0	0	0	0
Malignant disease	..	..		2	1	3	2	3	5
Arthritis	..	..	..	3	2	5	1	0	1
Respiratory disease	..	..		0	1	1	1	1	2
Other Conditions	..	..		3	0	3	2	0	2
				<u>33</u>	<u>22</u>	<u>55</u>	<u>22</u>	<u>15</u>	<u>37</u>

Age distribution of the retirements is as follows:

								1965	1966
Under 30 years	..	..	..	..	..	..	..	6	4
30 to 40 years	..	..	..	..	..	..	..	4	1
40 to 50 years	..	..	..	..	..	..	..	10	6
50 to 60 years	..	..	..	..	..	..	..	29	21
60 and over	..	..	..	..	..	..	..	6	5
								<u>55</u>	<u>37</u>

Retirements under the age of 40 years are as follows:

Age	.....	Sex	.....	Medical Condition
18	.....	M.	.....	Chronic Ill Health
21	.....	F.	.....	Emotional Instability
23	.....	F.	.....	Nervous Reaction
27	.....	F.	.....	Anxiety State
37	.....	M.	.....	Suppurative Arthritis

Public Service and Allied Services.

Examinations carried out at Medical Examination Centre

	1965	1966
Full medical examinations for permanent appointment and admission to the State Superannuation Fund	4,386	5,443
Examinations for fitness to continue in the Service	257	198
Re-examinations	297	171
Special Examinations	101	78
Psychiatric Examinations	255	297
	<u>5,296</u>	<u>6,187</u>

This Centre also arranged the following examinations in country areas and results were assessed at this Centre.

	1965	1966
Full examinations for permanent appointment and admission to the Superannuation Fund	1,388	1,366
Examinations for fitness to continue in the Service	56	48
Special Examinations	248	84
	<hr/> 1,692	<hr/> 1,498

During the year 107 Public Servants were retired on medical grounds, 17 of these were for psychiatric reasons and 90 for general medical disorders.

The following conditions were responsible for these retirements.

	1965			1966		
	M.	F.	Total	M.	F.	Total
Cardio Vascular disease ..	18	2	20	20	1	21
Mental Illness	8	4	12	16	1	17
Disease of the Central Nervous System	5	0	5	12	2	14
Kidney Disease	1	0	1	2	0	2
Malignant Disease	2	0	2	8	2	10
Arthritis	5	1	6	6	1	7
Respiratory Disease	2	0	2	7	1	8
Other Conditions	8	6	14	15	13	28
	<hr/> 49	<hr/> 13	<hr/> 62	<hr/> 86	<hr/> 21	<hr/> 107

The age distribution of the retirements is as follows:

	1965	1966
Under 30 years	5	11
30 to 40 years	7	8
40 to 50 years	17	28
50 to 60 years	29	43
60 and over	5	17
	<hr/> 62	<hr/> 107

It is of interest that 2 Public Servants were retired for the effects of Tuberculosis and 5 retirements were indirectly due to the effects of alcoholism.

Retirements under the age of 40 years are analysed below:

Age	Sex	Medical Condition
18	M.	Schizophrenia
20	M.	Schizophrenia
21	F.	Porphyria Disease
22	M.	Quadriplegia
23	F.	Hodgkins Disease
24	M.	Organic Reaction
25	M.	Paresis Right Arm and Leg
27	F.	Injury Left Leg
28	M.	Duodenal Ulcer
29	M.	Schizophrenia
29	M.	Carcinoma of Colon with Metastases
31	M.	Intervertebral Disc Lesion
34	M.	Chronic Anxiety State
35	M.	Intervertebral Disc Lesion
35	M.	Polycythemia Vera
38	M.	Cirrhosis of Liver
38	M.	Injury to neck
39	M.	Hemiplegia
39	F.	Asthma and respiratory infection

The centre has conducted other services as follows:

	1965	1966
Examination of Returned Servicemen for travelling concessions	1,939	2,035
Vaccinations	419	471
Electrocardiographs	81	137
Audiograms	132	163

Assessment of examinations for Metropolitan Water Sewerage and Drainage Board 177.

Assessment of examinations for Electricity Commission 181.

Sick leave certificates for non pathological conditions 510.

Medical Statistics

Medical Statistician: Dr D. L. JONES, M.B., B.S., B.Sc.

Location: 93 Macquarie Street, Sydney

The Medical Statistician has been involved with several projects this year. The biggest has been the design, programming, and testing of an automatic data processing system for the Exfoliative Cytology Section of the Institute of Clinical Pathology and Medical Research, Lidcombe. This has been carried out by the Medical Statistician in close liaison with the Systems Analyst. Testing is at an advanced stage. When in production analysis of the large volume of filed reports will become feasible and enable evaluation of cytological screening in the prevention of uterine cancer.

Another large survey that is now running is a caesarean section survey conducted by the Maternal Mortality Committee.

Testing was completed on a computer program to calculate and tabulate monthly air pollution readings for the Air Pollution Control Branch of the Division of Occupational Health. This is now in production.

Several other surveys and projects have been investigated and reported on in the exploratory stage. It is pleasing to see increasing use of statistical planning in the early stages of new projects, rather than the statistician becoming aware of a survey when it is planned or even commenced.

Poison case reporting by hospitals to the National Poisons Service of the Commonwealth Department of Health, Canberra, commenced at the end of the year. This office receives duplicates of reports from hospitals within the State. When reporting becomes established some detailed knowledge of the pattern of poisoning in New South Wales will become possible.

The Department has been represented by the Medical Statistician on the following committees:

Sub-Committee on Medical Records of the Committee on Patient Care, Hospitals Commission.

Medical Statistics Committee, National Health and Medical Research Council.

PREVENTIVE MEDICINE

THE BUREAU OF MATERNAL AND CHILD HEALTH

Director: Dr N. S. SOLOMONS

Location: 19 O'Connell Street

By establishing the Bureau of Maternal and Child Health in 1965 the New South Wales Department of Public Health provided prospective mothers, as well as children, with a continuing preventive health service—for the mothers during their pregnancy, labour, and puerperium, and for children from early infancy to school leaving age.

The Bureau, under the administration of a Director, combines the functions of the former Divisions of Maternal and Baby Welfare and School Medical Service, and consists of three sections, viz., the Section of Maternal and Infant Care, Section of Child Health, and Section of Special Services, each Section being in the charge of an Assistant Director. The sub-division into sections is nominal, as the section functions overlap and are interwoven into one Bureau.

Health supervision from the Bureau begins in the prenatal clinics which the prospective mother can attend as soon as she knows she is pregnant. There are nine such clinics in the Sydney metropolitan area (population 2,250,000) and three in Newcastle (population 750,000). A course of "Preparation for Parenthood" lectures has recently been initiated in some clinics, and parent group discussions have also been arranged under the supervision of a trained group leader from the Mental Health Association of New South Wales.

There are 438 Baby Health Centres in New South Wales, staffed by nurses who must hold a general and mothercraft certificate, and many also have midwifery certificates. The nurses visit all obstetric hospitals in the State interviewing as many mothers as possible before discharge from hospital. The names and addresses of new born babies are obtained through the Registrar General's Department, and those not brought to the Centres are visited at home, while mothers and babies at special risk are also visited at home on one or more occasions. The nurse advises on all aspects of child growth and rearing, but refers all sick babies for medical care to general practitioners and hospitals.

Well Baby Clinics and Paediatric Referral Clinics for infants and pre-school children are held by medical officers in Baby Health Centres. Routine medical examination and assessments are made, followed by counselling of parents if there are behaviour problems, while, again, all cases requiring treatment are referred to the family doctor or hospital.

The Department of Public Health instituted an Obstetric Consultant Panel in 1939 and its services are available to medical practitioners in any part of the State if they consider an obstetrical problem requires the advice of a consultant and the patient is unable to afford the specialist's fees.

The Bureau also provides a service by a Panel of Paediatric Consultants to babies under one year of age whose parents live outside the metropolitan area. When a general practitioner considers that a specialist opinion is needed and the parents are unable to afford the consultant's fees, or the cost of transport to an appropriate hospital, he is free to call on a consultant from this panel.

Free booklets, *Healthy Motherhood* and *Our Babies* are available for distribution to the general public, while *Obstetrics in N.S.W.* is sent to hospitals and the medical profession.

Children who attend schools, both departmental and non-departmental, nursery schools, and pre-school kindergartens, are examined by full-time medical officers in the metropolitan area of Sydney, the cities of Greater Newcastle and Greater Wollongong, the North Coast Health District, and in parts of the North Western, Western, Riverina and Broken Hill Health Districts.

General practitioners, working in a part-time capacity under the Country Council Scheme, inaugurated in 1958, examine children in schools in country municipalities and shires not visited by the full-time medical staff of the Bureau.

All children are medically examined on entering school, or at any age if a request is made by a parent or class teacher, as well as being reviewed on a number of occasions during their school career.

The parents of children who are found to have defects are notified by letter and advised to consult a private medical practitioner or a hospital outpatients' Department about treatment. Those who have hearing or speech defects are advised to attend a Bureau hearing or speech therapy clinic; those with hearing loss for the evaluation of its degree and cause before attending their own doctors, and those with speech defects for treatment.

During recent years mobile diagnostic teams have visited large country centres to examine atypical children, working in conjunction with family doctors and the Department of Education, and the Medical Officers of Health.

Children who have behaviour or habit disorders, disorders of personality, intellectual problems, or psychoneuroses are assessed and treated at one of the Bureau's ten child guidance clinics. These are staffed by psychiatrists, psychologists, and social workers and a close liaison is maintained with the children's private doctors and the Department of Education. Any child will be examined at one of these clinics on application by a parent, medical practitioner, school counsellor, or school teacher.

Within six to eight weeks of the examination of a school by a full-time medical officer, a Bureau nurse visits the school to "follow up" the results of the notification of defects. Enquiries are made from the children and their teachers from which the nurse prepares a list of children whose parents have failed to seek treatment for their disabilities. The nurse visits the home to advise these parents; to interpret the findings of the doctor; to let them know the facilities available for treatment, and agencies giving financial and social assistance; and to make the necessary arrangements. During these visits opportunity is taken to emphasise the importance of immunizing the children against diphtheria, tetanus, pertussis, and poliomyelitis, and to discuss other aspects of health.

The medical officer inspects the sanitary facilities in Education Department schools, and later a statement of suggested improvements or repairs is sent to the Department of Education by the Director of the Bureau.

Decentralization of the School Medical Service was begun in 1958 by establishing the first Child Health Centre. As at January, 1967, there are seven such Centres operating in the metropolitan area of Sydney, and four similar centres have been planned for the metropolitan area. In Newcastle there is also a Child Health Centre which was moved to a new building in 1966. A Centre is also planned for Wollongong, another large industrial centre. A Child Health Centre serves a community of approximately 45,000 school children, and provides services for the examination of children in schools, including nursery schools and pre-school kindergartens, together with a hearing, speech therapy, and child guidance clinic.

As well as examining children referred by parents, general practitioners or school teachers, children referred from other agencies are also examined—for example, migrant children sponsored by the Big Brother Movement and Dr Barnardo's Homes, children under the care of the Aborigines Protection Board, Far West Children's Health Scheme, and those admitted to Stewart House Preventorium.

High school pupils are examined for suitability as teacher trainees at the request of their parents or teachers, and the Bureau provides health services, through full-time medical officers, at all the teachers' colleges in the State, who also instruct the students in health education.

The Bureau also supplies the National Fitness Camps throughout the State (which are conducted by the Department of Education) with trained nursing staff.

SECTION OF MATERNAL AND INFANT CARE

Staff

Assistant Director: Maureen Grattan-Smith, M.B., B.S., D.P.H.

Establishment: One Senior Medical Officer (Maternity and Newborn); one Senior Medical Officer (Infant Care); three full-time and one part-time Medical Officers; two Nurse Inspectors; eight clerical staff. At the Baby Health Centres there were 233 full-time sisters employed; 54 part-time sisters; 8 sisters in training under bond.

The Section of Maternal and Infant Care during 1966 continued to maintain established services to mothers and young children while every effort has been made to extend these services to a wider area by building and staffing new Baby Health Centres, increasing medical clinics where necessary and continuing to investigate causes of maternal and infant mortality and morbidity.

Decentralization of some aspects of the work to Health Districts has been advantageous as it permits of closer contact by the Medical Officer of Health and the Assistant Nurse Inspector with the Baby Health Centre Sisters in the country districts. Staffing and finance remain with central control and until this also passes to the Medical Officer of Health decentralization cannot be achieved.

Although the low maternal and perinatal mortality statistics continue to reflect a high standard of care of mother and infant compared to other countries, a detailed study of the deaths suggests that there are still areas in which improvement can be made. Antenatal care, particularly in country areas, falls below the required standard, and the resultant high prematurity rate is still the major cause of death in the perinatal period.

The activities of the Section can be placed under three broad headings each in charge of a senior officer. These are Maternity and Newborn, and Infant Care, each under a Senior Medical Officer and the Baby Health Centre Nursing staff under the Senior Nurse Inspector.

At all times the Section has received full co-operation from other agencies concerned with the care of the mother and her child. These agencies include State Departments, hospitals, Local Government authorities, Country Women's Association, the Red Cross Blood Transfusion Service, the Mental Health Association of New South Wales, the Kindergarten Union of New South Wales, and the Sydney Day Nursery Schools Association.

BABY HEALTH CENTRES

At the end of 1966 there were 430 Baby Health Centres operating in New South Wales, consisting of 156 in the metropolitan area and 274 in the rest of the State. During that year six additional new centres were established and four were transferred to new premises as shown hereunder. The building and equipment in each case was subject to 75 per cent subsidy by the Department of Public Health.

Additional centres in new premises:

11th March, 1966	..	..	..	..	North Epping.
19th May, 1966	..	..	..	..	Anzac Village.
5th May, 1966..	..	..	..	..	Shortland.
6th July, 1966	..	..	..	..	McMahon's Point.
19th October, 1966	..	..	..	..	Oaklands.
7th October, 1966	..	..	..	..	Wreck Bay Aboriginal Settlement.

Replacement Centres in new premises:

14th February, 1966	..	..	..	..	Coff's Harbour.
10th May, 1966	..	..	..	..	Mittagong.
29th July, 1966	..	..	..	..	Cowra.
28th November, 1966	..	..	..	..	Gunnedah.

Funds for subsidizing new Baby Health Centres and equipment are made available each year from loan vote funds and are allocated to those centres most urgently required. Consideration must be given to the many applications received for new buildings and a priority list is maintained.

The loan vote allocation for Baby Health Centres for the financial year ending 30th June, 1966, was \$152,594.00. The total expenditure for 1965-66 was \$120,226.83.

The allocation for 1966-67 is \$141,660.00 and provision has been made for the establishment, replacement, or alteration of Baby Health Centres in the following areas: French's Forest, Blacktown, Parramatta, Windale, Penrith, Mudgee, Railway Town, Broken Hill, Lake Illawarra, West Pymble, Mt Pritchard, Bingara.

Attendances in Baby Health Centres

The number of births per annum in New South Wales has been steadily dropping since 1962. In this period the number of individual mothers attending Baby Health Centres has increased by 10,384 but the number of total attendances has decreased by 95,128. The number of nurses employed has increased by ten full-time units. The following table illustrates these figures:

		Births	Individual Attendances	Total Attendances	Nursing Units
1962	..	85,439	123,710	1,153,766	255
1966	..	77,758	134,094	1,058,638	265

This pattern of change is not accidental. The introduction of resilient feeding schedules and a permissive attitude towards the management of the baby has encouraged mothers to become more independent with the resultant drop in the total number of visits made to Baby Health Centres. The number of individual mothers attending however, has increased in spite of the fall in birth rate.

The individual and total attendances at Baby Health Centres situated within the Health Districts during 1966, compared with those for 1965 were:

Health District						Individual Attendances		Total Attendances	
						1965	1966	1965	1966
Metropolitan	..	..	..	..	..	81,509	83,233	668,111	635,998
Newcastle	..	..	..	..	..	13,853	12,533	102,627	98,308
South Coast	..	..	..	..	..	11,666	11,992	89,584	97,635
Western	..	..	..	..	..	9,086	8,564	72,416	69,489
North Coast	..	..	..	..	..	4,490	3,990	36,081	31,937
North Western	..	..	..	..	..	4,810	4,107	34,222	32,322
Riverina	..	..	..	..	..	8,398	8,529	63,971	63,905
Broken Hill	..	..	..	..	..	1,238	1,146	12,537	11,044
Total	..	..	..	..	..	135,050	134,094	1,079,549	1,058,638

MATERNITY AND NEWBORN

Although the number of maternal deaths in New South Wales was only 25 in 1965, a rate of 0·28 per 1,000 live births, it is still apparent to the Maternal Mortality Committee that in some cases full use is not made of facilities available in the way of free obstetric consultant services, pathological services, etc. The perinatal mortality rate will only be correspondingly reduced by proper utilization of all services available in preventing maternal morbidity.

The following table is a summary of Live Births and Maternal, Foetal, and Infant Deaths in New South Wales. It shows numbers and rates from 1940 to 1965 in five year periods and the year at present under review, 1966.

TABLE V—SUMMARY OF LIVE BIRTHS AND MATERNAL, FOETAL AND INFANT DEATHS—NEW SOUTH WALES 1940-1966

Year			Live Births	Maternal Deaths	Deaths Under 1 Year of Age	Deaths Under 28 Days of Age	Stillbirths (a)	Perinatal Deaths (b)
Number								
1940	..	..	49,382	209	1,927	1,263	1,342	2,605
1950	..	..	71,592	80	1,936	1,345	1,406	2,751
1960	..	..	81,983	56	1,735	1,250	1,261	2,511
1961	..	..	86,392	43	1,800	1,284	1,306	2,590
1962	..	..	85,439	29	1,825	1,321	1,099	2,420
1963	..	..	84,065	27	1,673	1,185	1,165	2,350
1964	..	..	80,518	28	1,634	1,152	1,003	2,155
1965	..	..	78,069	25	1,492	1,087	947	2,034
1966	..	..	77,758	22	1,490	1,085	964	2,049
Rate								
1940	..	..	(c) 17·78	(d) 4·23	(d) 39·02	(d) 25·58	(e) 26·46	(e) 51·36
1950	..	..	22·24	1·12	27·04	18·79	19·26	37·69
1960	..	..	21·38	0·68	21·16	15·25	15·15	30·16
1961	..	..	22·07	0·50	20·84	14·86	14·89	29·53
1962	..	..	21·46	0·34	21·36	15·46	12·70	27·96
1963	..	..	20·75	0·32	19·90	14·10	13·67	27·57
1964	..	..	19·54	0·35	20·29	14·31	12·30	26·43
1965	..	..	18·61	0·32	19·11	13·92	11·98	25·74
1966	..	..	18·37	0·28	19·16	13·95	12·25	26·03

- (a) A stillborn child is defined as “any child of seven months gestation or over not born alive and includes any child not born alive which measures at least fourteen inches, but does not include any child which has actually breathed.”
- (b) Stillbirths plus deaths under 28 days of life.
- (c) Number per 1,000 of mean population.
- (d) Number per 1,000 live births.
- (e) Number per 1,000 total births (live and still).

PRENATAL CLINICS

Prenatal clinics are held in the Baby Health Centres and are conducted by full- and part-time Departmental Medical Officers in the metropolitan area of Sydney. In the Newcastle district they are conducted by the staff of the Royal Newcastle Hospital. The provision of this service enables mothers to avoid long and often costly and tiring journeys to hospital.

An obstetrician from the staff of the Women’s Hospital, Crown Street, attends the Liverpool clinic and one from the Royal Hospital for Women attends the Parramatta clinic, both on a weekly basis. This enables patients attending these hospitals to visit the clinic for their initial interview, assessment and pathology tests, and so reduces still further the needs for these mothers to travel to the hospital at which they are to be confined.

There has been a decrease in attendances at most of the clinics due to the opening of new district hospitals with obstetric units in the periphery of the metropolitan area. It has therefore been found necessary to close four of the Departmental Prenatal Clinics, and there are now eight clinics in the Sydney area and three in the Newcastle district.

The following table shows attendances at Prenatal Clinics:

ATTENDANCES OF PRENATAL CLINICS—1966

Clinic	Primiparae		Multiparae		Post Natal	Total Visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Metropolitan Health District—							
Blacktown	20	99	66	414	..	599	53
Campsie Jan.-Sept.	8	37	19	131	..	195	36
Dee Why	42	324	57	416	..	839	52
Granville Jan. only	5	18	2	..	..	25	4
Hornsby Jan. only .. .. .	..	..	..	5	..	5	3
Hurstville	16	108	36	222	..	382	51
Liverpool	43	337	179	1,331	1	1,891	102
Manly	71	374	66	408	..	919	46
Mascot Jan.-Oct.	7	87	19	152	..	265	39
Parramatta	56	484	173	1,152	2	1,867	97
Totals	268	1,868	617	4,231	3	6,987	483
Newcastle Health District—							
Belmont	49	351	85	927	132	1,544	51
Cardiff	13	81	52	275	46	467	43
Charlestown	28	217	74	756	78	1,153	51
Totals	90	649	211	1,958	256	3,164	145
Grand Totals	358	2,517	828	6,189	259	10,151	628

MATERNAL MORTALITY COMMITTEE

Five meetings were held in 1966 and thirty-four deaths associated with pregnancy or childbirth were investigated and considered.

Of the fourteen deaths studied which had occurred during 1966, ten were classified as being due to maternal causes and four as non-maternal. The remaining twenty studied had occurred during 1965 and fifteen of these were classified as maternal and five as non-maternal.

A paper prepared by the Publications Sub-Committee on "Deaths Following Ectopic Gestation" was presented to the main Committee and after Ministerial approval, forwarded to the editor of the *Australian Medical Journal* in which it was published on 10th September, 1966.

The new edition of the booklet *Obstetric Practice in New South Wales* was printed by the Government Printer and distributed during December to medical practitioners in addition to the Medical Superintendents of hospitals with obstetric beds. The co-operation of the members of the Committee and various Sub-Committees formed for the purpose of writing the material for the booklet has led to the production of a useful and up-to-date source of information on obstetric matters in New South Wales.

The Publications Sub-Committee met twice during 1966 to discuss the progress of the survey into morbidity following Caesarean Section. The survey started on 1st April, 1966, and will end on 31st March, 1967, and will assess every Caesarean Section performed during that period of time. The Medical Superintendents and Honorary Obstetricians have been most co-operative in completing the required forms and the staff of the Commonwealth Bureau of Census and Statistics have been of great assistance in their many meetings with Departmental Medical Officers. The Bureau will carry out the major portion of the coding and will prepare the various tables on completion of the survey.

An exhibit of the Caesarean Section Survey material will be entered in the Vth World Congress of Obstetrics and Gynaecology to be held in Sydney in September, 1967.

PERINATAL MORTALITY STUDIES

During 1966 the proposed Compulsory Perinatal Death Form continued to be used on a voluntary basis and appropriate statistics are being prepared. It is anticipated that the Registration of Births, Deaths, and Marriages Act will be amended during 1967 and the Compulsory Perinatal Death Certificate will be introduced in 1968, replacing the present Stillbirth Notification.

INFECTION IN OBSTETRICS HOSPITALS AND UNITS

The amendment to the Public Health Act in May, removed staphylococcal infection in the newborn and puerperal fever from the list of notifiable infectious diseases. However, the need for meticulous care in labour ward and nursery routines and the importance of individual hospitals maintaining records of these conditions is still apparent.

Departmental medical officers were invited by the Medical Superintendent, of a district hospital to advise on an outbreak of salmonella enteritis which was occurring in the newborn nursery. A report was forwarded to hospital authorities with recommendations for controlling the outbreak.

FREE CONSULTANT SERVICE DURING PREGNANCY AND DELIVERY

The free obstetric consultant service which has been established by the Department encourages the general practitioner who has a difficult obstetric problem to call in specialist advice. The services are available to patients with limited means and the costs involved in the consultation fee or transport of the consultant are met by the Department of Public Health. Fifty-three consultations were arranged during 1966 as compared to twenty-six in 1965.

THE ANAESTHETIC CONSULTANT PANEL

This service was not used during 1966.

FREE SERVICES FOR MOTHERS AND BABIES SUFFERING FROM RH INCOMPATIBILITY

The mother with Rh incompatibility who is at risk of delivering an infant with haemolytic disease can receive financial assistance when necessary, to cover the costs of her transfer to a hospital which has facilities for assessment of the degree of haemolysis and facilities for exchange or intrauterine transfusion. The Red Cross Blood Transfusion Service, by arrangement with the Public Health Department, provides a free haematological service to practitioners of patients who cannot afford the additional expense and who live outside the metropolitan area.

During 1966 the transport service was utilized on six occasions.

BLOOD TRANSFUSION SERVICES

There are five mobile units in the metropolitan area, each situated at a teaching hospital. These work in co-operation with the Red Cross Blood Transfusion Service and the Department of Public Health, and are continuously available day and night on the request of medical practitioners in charge of an obstetric case. A further unit is based at the Royal Newcastle Hospital and serves obstetric hospitals within 100 miles of the hospital.

REGIONAL BLOOD BANKS IN THE REMAINDER OF THE STATE

There are nineteen regional blood banks throughout the State where blood is collected and despatched to district hospitals on demand. There are panels of Red Cross blood donors in many country towns—these are situated in areas where the district hospital has an obstetric unit. The information about these services have been included in the new edition of *Obstetric Practice in New South Wales*.

PREPARATION FOR MOTHERHOOD CLASSES

During the last 12 months instruction classes have been held in four Prenatal clinics. Four courses have been conducted at Liverpool, five at Dee Why and six at Parramatta.

The classes are held primarily for public patients attending the departmental prenatal clinic or a district hospital where no facilities for classes exist. If the classes are not filled by these patients, intermediate patients referred by their obstetrician are permitted to attend.

The keen interest and appreciation of the courses shown by the mothers underlines the continuing need for instruction in the prenatal period. Combined evening classes for husbands and wives were introduced at the Parramatta Centre on two occasions during this year.

PUBLICATIONS

Questions for use in prenatal clinics and the “Normal”, “Low Calorie”, and “Low Salt” diet sheets have been translated into twelve languages through the co-operation of the Commonwealth Migrant Centre. These are available to obstetric hospitals, general practitioners and are also used in the Section’s Prenatal clinics.

One hundred thousand copies of the booklet *Healthy Motherhood* were printed and distributed during 1966, and a new edition is at present in preparation.

The booklet *Obstetric Practice in New South Wales* has been referred to above—8,000 copies were printed and distributed.

INFANT CARE

WELL BABY CLINICS

Well Baby Clinics have been conducted by departmental medical officers in Baby Health Centres for many years. As the name implies, only well babies are seen, sick children are not and no treatment is given. The cases are referred by Baby Health Centre sisters and include infants about whom the sister is worried. This anxiety can be due to various reasons, e.g., failure of the child to pass milestones, mental retardation, and sometimes the advice given by the sister needs re-enforcement and this is best done by medical personnel. It is the intention of the Bureau to introduce routine medical examinations of three-year-olds and some of this work will be done in these clinics. To-date, only a few such examinations are made. No new clinics were established during 1966, but extra sessions were conducted in the busier clinics.

Well Baby Clinics	Attendances			Referral to				
	New Cases	Reviews	Total	Paed. Ref. Clinic	Child Health Centre	General Practitioners	Hospitals	Other
Auburn	201	29	230	1	23	30	5	..
Bankstown	212	84	296	..	9	64	9	27
Blacktown	160	34	194	2	5	39	5	2
Campsie	104	13	117	2	..	14	6	2
Caringbah	127	8	135	1	..	6	2	7
Dee Why	268	142	410	2	5	36	44	25
Dulwich Hill	79	38	117	1	5	10	18	6
Epping	95	28	123	1	1	29	2	..
Fairfield (only Jan.-Feb.)	18	2	20	..	..	..	2	1
Forestville	79	21	100	..	3	16	3	..
Gladesville	252	75	327	3	4	24	7	2
Glebe	38	8	46	1	6	8	4	4
Granville	130	37	167	..	13	37	1	6
Liverpool (Jan.-Feb.)	16	9	25	..	2	3	6	..
Manly	82	23	105	1	2	17	8	15
Newtown	43	15	58	..	3	5	4	..
Ryde (Jan.-Feb.)	12	3	15	..	..	1	..	..
Sutherland	102	37	139	13	4	24	7	2
Turramurra	138	22	160	..	5	22	1	5
Yagoona.. .. .	125	24	149	..	..	10	..	4
Totals	2,281	652	2,933	28	90	395	134	108

PAEDIATRIC REFERRAL CLINICS

The year 1966 has seen an increase in the number of paediatric referral clinics and this was made possible because of additional medical staff from the Section of Special Services. The clinics provide for the assessment of special conditions with particular emphasis on the following problems in the young baby; failure to thrive, emotional problems, excessive vomiting, excessive crying. Cases are not seen at the clinics if the condition is already under treatment.

Paediatric referral clinic	Attendances			Referrals		
	New cases	Reviews	Total	Hospitals	Child health centre	General practioners and specialists
Chatswood	109	88	197	7	5	6
Kogarah	123	128	251	6	2	17
Paddington	114	106	220	13	1	10
Parramatta	97	100	197	6	2	13
Fairfield (March-December)	101	56	157	11	3	18
Liverpool (March-December)	117	76	193	17	5	8
Ryde (March-December)	125	26	151	4	1	5
	786	580	1,366	64	19	77

KINDERGARTENS AND NURSERIES

The Section of Maternal and Infant Care has for many years provided a health service to the children under school age who attend pre-school centres conducted under the auspices of the Sydney Day Nursery and Nursery Schools Association, the Kindergarten Union of New South Wales and certain local government authorities. The health service provides for an initial medical assessment of every child enrolled and for review where warranted.

The medical examinations are carried out in the informal and familiar atmosphere of the kindergarten or day nursery. The mother is invited to be present and the child is introduced to a "visit" to the doctor without any associations of fear or discomfort.

If a deviation from the normal, either physical or emotional, is detected, the child is referred to the family practitioner for treatment and a review examination is carried out at a later date.

During 1966 a total of 260 visits were made by the medical officers to 33 Kindergartens and 14 Day Nurseries in the metropolitan health district.

The number of pre-school examinations carried out by the Section were as follows:

Day Nurseries—

1st examination	..	..	..	..	..	..	..	..	598
Review	..	..	..	..	..	..	..	..	416
									<hr/> 1,014

Kindergartens—

1st examination	1,612
Review	474
									<hr/> 2,086

Grand Total	<hr/> 3,100
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The medical officers also carried out 1,589 parent interviews during their visits and 557 cases were referred for treatment.

PAEDIATRIC CONSULTANT SERVICE

A paediatric consultant service commenced in June, 1964. This scheme was set up for the benefit of children outside the metropolitan area of Sydney and ensures that no baby under 1 year of age will be denied the benefit of specialist paediatric attention through lack of family means. The assessment of the family's financial situation is left to the general practitioner in charge of the case.

The consultant panel now consists of forty-six paediatricians and includes members of the staff of the Institute of Child Health, University of Sydney, and the Paediatric Unit, the University of New South Wales. During 1966 five (5) claims were received.

MOTHER DISCUSSION GROUPS 1966

During 1966, eighteen mother discussion groups were held in baby health centres throughout the metropolitan area. The aim of the discussion groups is to supplement the work in child care and development which is already being carried out in the community and the majority of those who participate in the group discussions are mothers who attend baby health centres.

Each group meets on a weekly basis for a period of 10 weeks; there are usually 9–12 participants and the group is led by a trained leader from the New South Wales Mental Health Association.

Details of the number and location of the Discussion Groups held in 1966 are:

Hornsby	3	Wentworthville	1
Yagoona	4	Ermington	1
Chatswood	1	Maroubra	1
Eastwood	1	Pendle Hill	1
North Ryde	1		

PARENT EDUCATION GROUP (PILOT)

A parent education group was conducted at Baulkham Hills Baby Health Centre during 1966. It was limited to mothers of first babies and the discussions were led by the clinical psychologist from Parramatta Child Health Centre. The group met on a weekly basis for ten sessions. There were no set topics for discussion and the participants were encouraged to discuss problems that were causing them concern. During the discussions the following topics were discussed: Parental attitudes, developmental problems, maternal roles, and social problems. The group proved successful. However, it was felt that more benefit would have been derived if the participants had been orientated about the expectations of this type of group prior to the first discussion and if the mothers had not been limited to those with first babies. It is planned to conduct a similar group in 1967.

PUBLICATIONS

In 1965, 80,000 copies of *Our Babies* were reprinted and in 1966 a further reprint was necessary to meet the demand. During 1966 the text of *Our Babies* was revised to ensure that the contents were in accordance with the most recent concepts of child management.

SURVEY OF INBORN ERRORS OF METABOLISM

Urine Testing Survey

Since March, 1964, a urine testing survey has been conducted in young infants to detect "Inborn Errors of Metabolism".

The survey has now extended to include every baby health centre in New South Wales, the Far West Children's Health Scheme, the Bush Nursing Association, the Australian Mothercraft Society (Truby King clinics) to the cot rooms in Day Nurseries under the auspices of the Sydney Day Nursery and Nursery Schools Association, to St Anthony's Home, and in July, 1966, it was further extended to the Canberra Mothercraft Society. Since 1964, a total of 167,577 tests have been carried out and the abnormalities detected include 9 confirmed cases of Phenylketonuria and 2 of Galactosaemia. During 1966, 57,450 tests were done and 3 cases of Phenylketonuria were confirmed.

Other aminoacidurias, including Cystine-Lysinuria and Prolinuria have also been detected in children who appeared to be normal and these are at present under the supervision of the Paediatric Units of both the University of Sydney and the University of New South Wales.

GUTHRIE TEST FOR PHENYLKETONURIA

The pilot study was instituted at two teaching hospitals towards the end of 1966—3 further hospitals will be involved in 1967 in order to carry out the 20,000 tests in this survey.

The Neuropathological Laboratories at North Ryde are performing the tests on the blood samples, and routine urine testing on all infants is still being continued.

NURSING STAFF

The staff position continues to follow the trend of previous years. Compulsory country service inhibits recruitment of permanent staff and restricts the scope of selection.

During 1966, recruitment for specific country circuits was introduced. Nine sisters have been recruited to conduct a circuit in the area in which they live on a permanent basis, one as a bond trainee. Bond training for this purpose is a departure from established practice, where the bond recruit was required to undertake country service as directed. Twenty-nine other country circuits are staffed by sisters who have elected to remain beyond the three year directed country service period.

The remaining country circuits, forty-five, which are generally in the smaller towns and the more remote parts of the State, continue to be staffed by sisters on directed country service, usually those who have trained under bond.

NURSING STAFF DETAILS

Establishment	..	..	..	..	..	277
Employed as at 31st December, 1966.						
Permanent	..	..	..	..	..	151
Temporary	..	..	..	..	..	82
Part-time officers	..	..	..	..	..	54 = 26 $2\frac{1}{4}$ /5 units
Bond trainees	..	..	..	..	..	8

APPOINTMENTS AND RESIGNATIONS DURING 1966

Appointments

Permanent officers	..	..	..	..	..	19 (2 from bond training)
Temporary	..	..	..	..	..	26
Part-time	..	..	..	..	..	15 = 6 $4\frac{1}{2}$ /5 units
Bond trainees	..	..	..	..	..	10

Resignations

Permanent	..	..	..	..	..	25—of these 9 retired on age
Temporary	..	..	..	..	..	17
Part-time	..	..	..	..	..	6 = 2 $\frac{1}{2}$ /5 units

CLINIC NURSE

Two clinic nurse positions were approved by the Public Service Board. The positions were taken from the basic Baby Health Centre staff establishment. It was determined that they would work under the direction of the Baby Health Centre sister to give mothercraft guidance to mothers in their homes. Two nurses were selected, one of these withdrew her application and one took up duty at Parramatta Baby Health Centre in January, 1966.

Her work began in the Parramatta area and gradually extended to serve the centres in the adjoining suburbs. Approval was subsequently given for her services to be available, in special cases, in more distant places such as the Bankstown and Liverpool-Green Valley areas. Eighty-four individual cases involving 181 visits were attended. The problems needing help were mainly management and feeding. Special cases included a blind mother, deaf and dumb parents, mothers under psychiatric care, and multiple births including triplets.

INTRODUCTORY TRAINING ON APPOINTMENT

All nurses appointed to the staff are placed with a competent and experienced sister to become acquainted with the work and to learn departmental policies and procedures. Nurses appointed to country circuits spend two weeks in the metropolitan area to observe all aspects of the work of the Bureau including the Child Health Section. After this, they work for two weeks with a sister in the circuit prior to taking over as Sister in Charge.

IN-SERVICE TRAINING—PUBLIC HEALTH NURSES

Two programmes of In-service training in Public Health nursing were conducted in 1966, one on a part-time basis of one day per week and one full-time course of eight weeks. The syllabus and content were the same in both and the full-time one was arranged to enable all the students to take part in the same examination. Seven Baby Health Centre sisters undertook the part-time course. Four undertook the full-time course. Six Assistant Nurse Inspectors from the Health Districts also did the full-time course. All candidates were successful at the examination.

STUDENT NURSE TRAINING

General Nursing

Preliminary training school nurse students visit Baby Health Centres as part of their community health programme. The visit is arranged at a centre which is closed to mothercraft sessions at the time of the visit. A competent sister receives the students, shows them around the centre and then outlines the services provided by the Bureau of Maternal and Child Health through the Baby Health Centre.

The following hospital training schools attended in 1966:

Royal North Shore	..	..	..	..	..	..	..	4 visits
Balmain District	..	..	..	..	..	..	..	2 visits
Royal South Sydney	..	..	..	..	..	..	..	1 visit
Blacktown District	..	..	..	..	..	..	..	1 visit
St George District	1 visit

Midwifery Students

Canterbury District	1 visit
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MOTHERCRAFT NURSING—SIX MONTHS COURSE

Mothercraft nurse training came under the control of the Nurses' Registration Board in February, 1966, following an amendment to the Nurses' Registration Act.

The regulations require that each student spend 10 days in a Baby Health Centre. So that the time would be profitably spent, a planned programme including student participation was prepared for each of the four established mothercraft training schools and for the newly recognized St Anthony's Home.

Observation visits from the schools were:

					No. of students		Weeks involved	
					February school	August school	February school	August school
Tresillian								
Petersham	..	..	..	..	10	11	20	22
Willoughby	..	..	..	..	7	7	14	14
Vaucluse	..	..	..	..	8	1	16	2
Karitane	..	..	..	..	8	6	8	6
St Anthony's Home	..	..	..	..	....	1	....	1

Visits were arranged for students from the Nursery School Training College, the New South Wales College of Nursing and for nurses proceeding to take up duty as Bush Nurses.

MEDICAL STUDENT VISITS

Training sessions for medical students are conducted in Baby Health Centres. The Sisters in Charge of selected centres are required to arrange for suitable "cases". Mothers are requested to attend with their babies, for interview by the students.

This involved:

Centres	..	..	..	..	..	..	..	..	..	..	30
Sessions	..	..	..	..	..	..	..	..	..	..	60
Cases	..	..	..	..	..	..	..	..	..	..	252

LECTURES TO SCHOOL CHILDREN

At the request of the school principals, senior Baby Health Centre sisters talked to pupils at Fairfield and Kogarah secondary schools about infant care.

NURSE INSPECTORS CONFERENCE

One conference for Nurse Inspectors was held and attended by the Assistant Nurse Inspectors from the Health Districts.

SPECIAL SURVEYS

Baby Health Centre cards were made available for two special surveys:

Overweight babies—carried out by Royal Prince Alfred Hospital, Dietetics Department, in conjunction with the School of Public Health and Tropical Medicine.

Weight graph survey—Dr F. W. Clements. Follow-up visiting in connection with the overweight survey was done by Baby Health Centre sisters.

HEARING SCREENING OF SIX MONTHS OLD BABIES

Seven selected sisters were trained in hearing testing techniques by an officer from the Commonwealth Acoustic Laboratories prior to a pilot study which commenced during August and is continuing.

HOME AND HOSPITAL VISITING

Progress is being made with hospital visiting. The Baby Health Centre sisters are continuing to improve liaison with the sisters in charge of nurseries and in a number of cases are being informed when "at risk" babies and mothers with problems are to be discharged. This enables an early home visit to be paid to the mother and help and guidance given when it is most urgently needed. The Wahroonga Sanitarium hospital is now included in hospital visiting.

Special home visiting was carried out to "follow up" babies discharged from Fairfield District Hospital because of an outbreak of infection in the newborn nurseries.

URINE TESTING SURVEY

All Baby Health Centres are now issuing urine testing papers. Special arrangements were made for the distribution of the papers and forms to mothers attending a private Baby Health Centre conducted in a pharmacy at Roselands Shopping Centre. If the mother has not been visited by a Baby Health Centre sister, the nurse in charge of the clinic sends the name to this office and a visit for distribution of the form is arranged.

CARD RECORDING IN BABY HEALTH CENTRES

The Deputy Nurse Inspector is conducting a card revision programme to improve the history records on baby health centre cards. This has resulted in general discussion among the sisters and improvement in record keeping is expected.

WALGETT NURSING SERVICE

A baby health centre bond trainee undertook this circuit. Contrary to usual policy, two permanent officers who had not done country service were admitted to the In-service Public Health nursing programme in order to have an officer adequately prepared to undertake this proposed service or one of the itinerant services. The officer concerned was asked to volunteer for Walgett in lieu of other directed country service and agreed to do this. The position is still retained on the baby health centre establishment, although the officer is not under supervision of the nursing staff of this Section.

BABY HEALTH CENTRE NURSES' GROUP

The Baby Health Centre Nurses' Group meets every second month and has continued to operate successfully. Speakers addressed five of the meetings on a variety of subjects related to the work of the nurse. The group undertook to provide the morning tea to mothers attending the Preparation for Motherhood classes at prenatal clinics and raised the money needed by competitions and theatre parties organized among themselves.

PUBLIC HEALTH NURSES' CONFERENCE

A conference for all nurses engaged in public health was arranged by the New South Wales College of Nursing. The content was predominantly psychiatric with one speaker, a psychiatrist from the Child Health Section, the Director of Geriatrics, and the remainder were from the Division of Psychiatric Services. The conference held on Saturday and Sunday was well attended by Baby Health Centre sisters.

CASE DISCUSSIONS—CHILD HEALTH CENTRES

Eleven Baby Health Centre sisters attended five case discussions at Child Health Centres. Because of staff difficulties, it is not always possible to release sisters to attend these discussions.

THE NURSE INSPECTOR'S OFFICE

All day to day and metropolitan holiday relief is being handled by the baby health centre clerk. Recreation relief in country circuits occupies a considerable amount of time in organizing because of the inability of some temporary officers and the reluctance of others to undertake relief in the country.

The continuing turnover of staff with the resultant recruitment and employment is time consuming. Much work is involved in dealing with problems difficult for the sisters to resolve, which are referred urgently by 'phone or by letter.

Because of the above factors, most of the field contact with the sisters is made by the deputy nurse inspector who carried out all inspections of a routine nature.

Inspections during 1966:

Routine	..	..	..	..	..	..	..	..	..	143
Special (including new centres and equipment)	..	..	..	..	..	..	..	..	..	15
Return with cards for discussion	..	..	..	..	..	..	..	..	..	21
Total	..	..	..	..	..	..	..	..	..	179

SECTION OF CHILD HEALTH

Assistant Director: J. R. F. BOGER, M.R.C.S., L.R.C.P., D.P.H., D.C.H.

Location: 86-88 George Street, Sydney

STAFF

- 1 Assistant Director.
- 9 Senior Medical Officers (including new position of Senior Medical Officer, Sydney Teachers College).
- 8 Teachers College Medical Officers.
- 3 Part-time Teachers College Medical Officers (including Alexander Mackie Teachers College).
- 38 School Medical Officers.
- 1 Senior Nurse.
- 81 Nurses.
- 22 Clerical Officers.
- 1 Switchboard Operator.

The establishment was increased during the year by two medical officers, one for the Riverina Health District and the other for the metropolitan area. A part-time medical officer position for two days a week was created at Alexander Mackie Teachers' College and filled; later in the year it was converted to a full-time position which was not to be occupied until the 1967 academic year. A fourth position for a doctor at Sydney Teachers College was created with the establishment of a senior medical officer position, which, too, was not to be filled until the next academic year. One medical officer position "Area Medical Officer" was reclassified as an ordinary medical officer position. Three nursing positions were added to the establishment, one for Narrabeen National Fitness Camp,

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Director-General of Public Health
New South Wales*

*52 Bridge Street,
Sydney,
N.S.W. 2000*

making a total of 4 nurses employed at camps, and the remaining 2 for the Western and Riverina Health Districts. Two nurses and a part-time office assistant were transferred to the Division of Tuberculosis when Mantoux survey work in the schools became that Division's responsibility. Four additional office assistants were appointed to serve part-time, 2 days a week, at the metropolitan child health centres, excluding Forest Lodge and Eastern Suburbs.

FUNCTIONS

As described in the last annual report the Section of Child Health is charged with providing preventive health services to children of all ages. In addition, since the function of the Bureau, and, as distinct from the role of the School Medical Service, it is responsible for the provision of health checks, similar to those at schools, to pre-school children over the age of 2 years.

Medical officers are seconded to Teachers Colleges and nurses to four of the larger National Fitness Camps.

The Section plays a major role in health education through its medical officers and nurses who are especially well placed for the purpose. During the year the in-service training of teachers in health education was begun; this is a new function and is described below.

Another new function is the medical examination and health education of children at Minda Remand Home on behalf of the Child Welfare Department.

POLICY ALTERATIONS AND PROGRESS

The new policy of, for the most part, fully examining most school children once only has been continued successfully as described in the last two annual reports. Such a selective system means that more children are seen by appointment at child health centres; medical and nursing staff are dissipating less time and energy on tedious, repetitive "normal" examination with a resultant greater job satisfaction.

As already mentioned more pre-school examinations are being carried out every year, but it will be a long time before the majority of children are examined before entry to school and so have defects corrected, or at least under treatment by school age. It is clear that centres in predominately prosperous areas are likely in several ways to be less busy than those in relatively underprivileged areas containing a high proportion of migrant stock. In wealthier groups there are more pre-school daytime classes and, generally speaking, preventive medical services are better understood and, therefore, well received. For example, from one metropolitan child health centre serving a comparatively prosperous area nearly 1,000 pre-school children were examined during the year, while other centres examined comparatively few.

The Child Health Centre at Newcastle began work at the end of the year and plans were made for its official opening by the Minister, A. H. Jago, M.L.A., in January, 1967. No new metropolitan child health centres were begun during the year but plans were drawn up for Cabramatta, it being expected that it would be started during the 1966-1967 financial year. Although in last year's report it was stated that sites had been found for all child health centres, the plans for sites for Sutherland and Wollongong had to be abandoned, and further searches are being made.

As in previous years the senior medical staff of the Section took part in talks to Rotary groups, parents' organizations, meetings of school teachers, counsellors and inspectors. A very successful in-service training course for teachers in health education was run at Yagoona Child Health Centre. This course was in effect a pilot study and was suggested by the Health Educationist whose staff provided guidance and the resource material. That it was a success is very important because other methods of introducing the subject to primary teachers had proved ineffective and also success demonstrated that co-operation between a child health centre and the schools in its area is excellent. Further courses at Yagoona and at other Sydney centres are planned for next year. It is plain that these courses will increase the number of children referred to centres by teaching staff, because teachers will become more aware not only of the facilities which exist for the management of atypical children, but also of the ways in which children with health problems present. Teachers will know better which children should be discussed with the school nurse on her yearly visit and the Bureau's resources put to better use because a further type of selection of patients is occurring.

A medical officer from Bexley Child Health Centre was seconded to Minda Remand Home when it opened in May. A quote from the Child Welfare Department's Annual Report is as follows:

"Four Departments liaise in this setting—The Departments of Justice, Public Health, Police and this Department. Particular mention should be made to the medical service being provided by the Health Department, especially in testing for and treating venereal disease among the girls. A comprehensive medical form has been designed for general use, hence all committed children going to an institution will be accompanied by a full medical record. This will eliminate medical examinations by a visiting medical officer at the training school, except where follow-up treatment is necessary. Plans have been made to develop health education among the children entering "Minda", again with special reference to venereal disease."

It is particularly pleasing that this co-operation has been achieved so rapidly and it is a worthy recommendation for the doctor who undertook this new field of activity.

MEDICAL INSPECTION OF SCHOOL CHILDREN

During 1966 the number of children fully examined or reviewed again decreased. This is in keeping with the policy followed for many years which is to reduce the number of examinations to the minimum by using other methods of finding the children who need help. The number of children seen at child health centres continues to grow and because more examinations are selective the time taken on each one is, on average, longer. In previous reports it has been pointed out that the younger the child examined, the longer the procedure. A significant number of pre-school children have been examined and these figures have not been included in the tables below, but will be found in the reports of the individual child health centres and nursery schools.

Throughout the State, but perhaps more particularly in the metropolitan area, there was much loss of medical officers' working time in the schools, due to retirement, death, resignation due to removal of home of married woman medical officer, accouchment leave, sickness, and delay in filling vacancies, and this had a profound effect upon the work of the Section. In many instances it meant that only a limited service could be provided using nurses conducting review examinations of vision and hearing.

Because the method of selection of pupils for examination has changed considerably the extent of Table I has been reduced from previous years.

TABLE I

New South Wales	1964	1965	1966
School population	849,996	889,957	908,880
Number of pupils fully examined ..	140,629	106,783	91,336

To save much unnecessary effort school cards for most secondary school pupils examined for review of vision and hearing, are not sent to the Commonwealth Statistician. Figures for these occur in the individual child health centre and medical officer of health reports. Twelve thousand six hundred and thirteen children in secondary schools were reviewed by the nurses based on Head Office.

TABLE 2—NUMBER OF PUPILS IN PRIMARY SCHOOLS IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, 1966

	<i>Metropolitan Area</i>	<i>Remainder of State</i>	<i>New South Wales</i>
(a) <i>Full examinations—</i>			
Kindergarten	24,840	16,472	41,312
Grade 1	11,398	7,599	18,997
Grade 2	6,596	3,598	10,194
Total including all Grades	51,757	37,439	89,196
(b) <i>Reviews—</i>			
Grade 4	24,822	12,839	37,661
Total including all Grades	58,456	33,397	91,853

TABLE 3—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN PRIMARY SCHOOLS, AND SCHOOL POPULATIONS IN THE METROPOLITAN AREA, IN THE REMAINDER OF STATE AND NEW SOUTH WALES, 1966.

Primary Schools	Metropolitan Area		Remainder of State		New South Wales	
		Percentage		Percentage		Percentage
Population—						
Departmental	243,428	..	227,425	..	470,853	..
Non-Departmental	83,719	..	60,606	..	144,325	..
Total population	327,147	..	288,031	..	615,178	..
Full examinations	51,757	15.82	37,439	13.00	89,196	14.50
Reviews	58,456	17.87	33,397	11.59	91,853	14.93

TABLE IV—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PRIMARY SCHOOL PUPILS FULLY EXAMINED IN NEW SOUTH WALES, 1966, EXPRESSED AS A PERCENTAGE

					Primary Schools	
					Boys	Girls
Number Examined	..	..	..	..	45,915	43,281
Defects—						
Vision*	..	..	..	..	5.44	6.22
Number with glasses	..	..	..	..	0.45	0.59
Squint	..	..	..	..	0.96	1.09
Hearing	..	..	..	..	3.66	3.24
Nose and Throat	..	..	..	..	2.08	2.02
Teeth	..	..	..	..	2.57	2.58
Skin	..	..	..	..	2.50	2.71
Thyroid	..	..	..	..	0.03	0.07
Heart and Circulation	..	..	..	..	0.69	0.74
Asthma	..	..	..	..	3.14	2.07
Other Lung Defects	..	..	..	..	5.20	4.53
Development (Hernia)	..	..	..	..	0.65	0.28
Orthopaedic	..	..	..	..	1.74	1.52
Nervous System	..	..	..	..	0.43	0.37
Psychological	..	..	..	..	1.63	1.06
Speech	..	..	..	..	1.84	0.73

* Includes with and without glasses

BEXLEY CHILD HEALTH CENTRE

R. ELLAM, M.B., Ch.B.

The total school population in the 80 schools now covered by the Centre slightly increased in 1966 to a figure of 42,394.

Routine medical inspections were carried out in 78 schools and two were omitted at the principals' requests owing to lack of accommodation.

A total of 16,222 children were examined in the schools.

Examinations in Schools

Primary School

Full examinations by medical officers	..	..	..	..	..	3,697
All grades, review examinations by medical officers and nurses	..	..	..	..	..	6,774
4th grade only—mainly conducted by nurses	..	..	..	..	..	2,695

High School

Review examinations—						
Not referred to medical officer	..	..	..	..	..	5,245
Referred to medical officer	..	..	..	..	..	506
Total	..	..	..	..	..	5,751

The defects notified numbered 160 and these were:

Defect	Boys	Girls	Total
Vision	68	53	121
Hearing	20	10	30
Skin .. ..	..	3	3
Hair .. ..	..	4	4
Teeth	2	..	2

In the follow-up of all notified defects the nurses interviewed 1,686 children and made 553 home visits.

Medical Examinations—Child Health Centre

At the Centre 798 medical examinations were carried out. This includes 554 new cases and 244 reviews.

The referring agencies of the new cases were as follows:

Centre Staff	..	..	..	..	..	..	..	..	..	188
Parents	..	..	..	..	..	..	..	..	..	231
Teaching Staff	..	..	..	..	..	..	..	..	..	45
Division of Guidance and Adjustment	..	..	..	..	..	..	..	..	..	15
Medical Practitioners	..	..	..	..	..	..	..	..	..	58
Baby Health Centres	..	..	..	..	..	..	..	..	..	4
Department of Child and Social Welfare	..	..	..	..	..	..	..	..	..	5
Other agencies	..	..	..	..	..	..	..	..	..	8

Hearing Clinic

Owing to the leave of absence this year of the Ear, Nose and Throat Consultant at the Centre, the number of sessions conducted at the Hearing Clinic were reduced from 91 in 1965 to 68 in 1966.

A total of 495 cases were seen which included 236 new cases and 259 review examinations.

Details concerning the work of the clinic are set out below:

Results of Examinations	Boys	Girls	Total
New cases normal hearing	101	54	155
Review cases normal hearing	88	65	153
New cases remedial defect	33	6	39
Review cases remedial defect	32	26	58
New cases chronic deafness	2	..	2
Review cases chronic deafness	6	4	10
New cases treatment recommended or receiving treatment	30	10	40
Review cases treatment recommended or receiving treatment	24	13	37
Review cases hearing aid recommended	1	..	1

Pre-School Examinations

Only two visits were made to pre-school kindergartens during the year. This curtailment was due to a medical officer being seconded from the Centre to Minda Remand Centre.

Number examined by medical officer

Full medical examinations	..	..	..	..	..	..	..	42
Review examinations	..	..	..	..	..	..	..	26
Total	..	..	..	..	..	..	..	68

Notifiable defects—Nil.

Parent Interviews—8.

The weekly “new case intake conference” was held regularly throughout the year and as the majority of new cases referred to the Centre consisted mainly of mental health problems the Child Guidance Clinic staff continued to attend as well as the medical officers.

The medical officers have also continued to give talks to local schools and other organizations within the area.

CHATSWOOD CHILD HEALTH CENTRE

T. F. COWDROY, M.B., B.S.

The population of the 108 schools and the 13 pre-school kindergartens in the Chatswood Child Health Centre area totalled 50,696.

Medical inspections were completed in 86 schools and 13 pre-school kindergartens and of the remaining 22 schools, 20 will be visited early in 1967. Examination of the other two will be deferred until accommodation is available.

Examinations in Schools

Primary School

Full examinations by medical officers	..	..	..	..	..	5,656
All grades, review examinations by medical officers and nurses	..	..				4,792
4th grade only—mainly conducted by nurses	..	..	..	..		2,758

High School

Review examinations—

Not referred to medical officer	7,341
Referred to medical officer	320

Total	7,661
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The defects notified numbered 259 and comprised the following:

Defect	Boys	Girls	Total
Vision	107	127	234
Hearing	5	18	23
Other .. .. .	..	..	2

In the follow-up of defects 1,858 children were interviewed in the schools, 516 home visits were made and 14 visits were made to hospitals or clinics with children.

Results of the follow-up work revealed that of the 1,163 defects notified, 75.2 per cent were found to have had treatment within 3 months; 8.8 per cent had treatment after 3 months had elapsed; 12.4 per cent of defects did not receive any treatment and 3.5 per cent had resolved and no longer required treatment.

Special Schools

Three schools for handicapped children and one unit for partially sighted children were visited each term and in addition one school for handicapped children had an annual visit.

Medical Examinations—Child Health Centre

A total of 1,120 medical examinations were carried out in 1966 and of these 724 were new cases.

The source of referral for the 724 new cases was as follows:

Parent Application	..	..	..	..	..	369
School Principals	..	..	..	..	..	87
Child Health Centre Staff	..	..	..	..	..	45
General Practitioners and Paediatricians	..	..	..	..	..	84
Division of Guidance and Adjustment	..	..	..	..	..	86
School Counsellors	..	..	..	..	..	40
Baby Health Centres	..	..	..	..	..	5
Department of Child and Social Welfare	..	..	..	..	..	3
Social Agencies, Hospitals, Others	..	..	..	..	..	5

Hearing Clinic

The Hearing Clinic has continued to operate satisfactorily with two sessions weekly and 585 cases were investigated during the year.

Details of the work are set out below:

Results of Examinations	Boys	Girls	Total
New cases with normal hearing	61	51	112
Review cases with normal hearing	99	72	171
New cases recommended for or under treatment	15	9	24
Reviews recommended for or under treatment	20	10	30
New cases with remedial defects	46	38	84
Reviews with remedial defects	68	32	100
New cases recommended for Deaf School .. .. .	..	1	1
Chronic deafness	30	28	58
Hearing aid recommended .. .. .	..	1	1
Hearing aid provided .. .. .	..	1	1
Cases already in Opportunity Deaf Class .. .. .	..	3	3

Pre-School Kindergartens

Thirteen pre-school kindergartens were medically examined.

Number examined by Medical Officer

Full examinations	910
Notifiable defects	72
Parent Interviews	188

Defects notified were:

Vision	16
Strabismus	2
Hearing	11
Nose and Throat	2
Skin	3
Asthma	13
Development Hernia	18
Maladjustment and behaviour problems	4
Speech	3

Case conferences were also held at the Centre regularly during the year and talks were given to school organizations such as Mother’s Clubs and Parents and Citizens’ Associations.

EASTERN SUBURBS CHILD HEALTH CENTRE

S. E. PHILLIPS, M.B., B.S., D.C.H.

The school population in the area was approximately 43,160 children. Twenty-five thousand five hundred and thirty attended at forty-nine departmental schools and 17,630 at sixty-one private and parochial schools.

Examinations in Schools

Primary Schools

Full examinations by medical officers	4,665
All grades, review examinations by medical officers and nurses.. .. .	8,789
4th grade only—mainly conducted by nurses	2,747

High Schools

Review examinations—	
Not referred to medical officer	5,090
Referred to medical officer	1,224
Total	6,314

During the examinations 424 defects were detected and notified. These were:

Defect					Boys	Girls	Total
Vision	..	..	..	..	195	110	305
Hearing	..	..	..	..	41	11	52
Skin	..	..	..	..	5	2	7
Hair	..	..	..	..	1	11	12
Emotional	..	..	..	..	5	..	5
Thyroid	..	..	..	..	..	2	2
Teeth	..	..	..	..	9	9	18
Speech	..	..	..	..	5	..	5
E.N.T.	..	..	..	..	4	1	5
Orthopaedic	..	..	..	..	7	2	9
Headache	}	..	..	..	1	3	4
Cyst							
Anaemia							

The school nurses in follow-up work interviewed 789 boys and 670 girls at school and 434 home visits were made concerning defects found at school and for those who were attending the Child Health Centre.

The sisters also acted as escorts with children to and from the Centre and various hospitals for treatment.

Special Schools

Eight visits were made to a School for Intellectually Handicapped Children and on two occasions a speech therapist accompanied the medical officer. Twenty-six new entrants were examined and their parents interviewed and forty children were reviewed.

The notifiable defects found were:

Vision	..	..	..	..	..	..	..	..	..	..	4
Hearing	..	..	..	..	..	..	..	..	..	..	3
Teeth	..	..	..	..	..	..	..	..	..	..	1
Phenylketonuria	..	..	..	..	..	..	..	..	..	..	1
Polyuria	..	..	..	..	..	..	..	..	..	..	1
Cardiac	..	..	..	..	..	..	..	..	..	..	2

In addition, two Child Welfare Department Homes and Schools for boys were visited. Five visits were made. A total of 35 new children examined and 49 were reviewed.

Defects found were:

Vision	..	..	..	..	..	..	..	..	..	..	4
Hearing	..	..	..	..	..	..	..	..	..	..	12
E.N.T.	..	..	..	..	..	..	..	..	..	..	4
Skin	..	..	..	..	..	..	..	..	..	..	1
Testes	..	..	..	..	..	..	..	..	..	..	1

One thousand and twenty-two examinations and reviews were carried out at the Metropolitan Boys' Shelter. Defects found were 10.3 for every 100 boys examined.

Medical Examinations—Child Health Centre

At the Child Health Centre 741 interviews and examinations were conducted and of these 407 were new cases.

The new cases were referred by the following agencies:

Child Health Centre Staff	..	..	..	..	..	..	..	..	..	134
Parent Application	..	..	..	..	..	..	..	..	..	134
School Principals	..	..	..	..	..	..	..	..	..	66
Medical Practitioners	..	..	..	..	..	..	..	..	..	17
Division of Guidance and Adjustment	..	..	..	..	..	..	..	..	..	12
School Counsellors	..	..	..	..	..	..	..	..	..	28
Department of Child and Social Welfare	..	..	..	..	..	..	..	..	..	7
Social Agencies	..	..	..	..	..	..	..	..	..	1
Section of Maternal and Infant Care	..	..	..	..	..	..	..	..	..	4
Commonwealth Acoustic Laboratory	..	..	..	..	..	..	..	..	..	1
Others	..	..	..	..	..	..	..	..	..	3

Following the initial interview the cases were dealt with as follows:

Counselled by Medical Officers	..	..	..	..	..	..	143
Referred for psychometric assessment and counselled	..	..	..	..	..	..	30
Referred to Child Guidance	..	..	..	..	..	..	172
Referred to Speech Therapy	..	..	..	..	..	..	8
Referred to Hearing Clinic	..	..	..	..	..	..	2
Referred to Division of Guidance and Adjustment	..	..	..	..	..	..	24
Referred to Medical Practitioners and Hospitals	..	..	..	..	..	..	25
Referred to Vocational Guidance	..	..	..	..	..	..	3

Nursery Schools

Twelve visits were made to six Nursery Schools in the Child Health Centre area during the year.

Number examined by Medical Officer

Full examinations	..	..	..	..	..	..	..	178
Review examinations	..	..	..	..	..	..	..	92
Total	..	..	..	..	..	..	..	270
Notifiable defects	..	..	..	..	..	..	..	38
Parent interviews	..	..	..	..	..	..	..	127

Defects notified were:

Vision	..	..	..	..	..	..	..	8
Strabismus	..	..	..	..	..	..	..	4
Hearing	..	..	..	..	..	..	..	5
E.N.T.	..	..	..	..	..	..	..	11
Skin	..	..	..	..	..	..	..	1
Orthopaedic	..	..	..	..	..	..	..	1
Nervous System	..	..	..	..	..	..	..	2
Behaviour Disorder	..	..	..	..	..	..	..	5
Speech	..	..	..	..	..	..	..	1

Weekly case conferences were held between the Medical Officers and the Psychiatrist at the Centre and in a number of instances the referring medical officer became part of the Child Guidance team participating in the therapy of the child.

Monthly meetings were also held at which the whole Child Health Centre staff participated and in addition, monthly conferences were held between the area school counsellors and the Centre staff.

FOREST LODGE CHILD HEALTH CENTRE

C. CHALMERS, M.B., B.S.

Routine examinations were carried out in all but two schools in the Child Health Centre area. One was deferred at the request of the Principal. Contact however, was maintained with both of the schools and any child causing concern to either his teacher or parent was examined.

During the year a total of 17,452 children were examined and in addition, 609 full examinations and 482 review examinations were carried out at Yasmar Child Welfare Department Shelter.

Examinations in Schools

Primary Schools

Full examinations by medical officers	..	..	..	..	..	5,445
All grades, review examinations by medical officers and nurses	..	..	..	..	..	6,377
4th grade only—mainly conducted by nurses	..	..	..	..	..	2,259

High School

Review examinations—

Not referred to medical officer	4,681
Referred to medical officer	949

Total	5,630
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The defects numbered 473 and included the following:

Defect	Boys	Girls	Total
Vision	136	113	249
Other eye defects	3	..	3
Hearing	79	41	120
Skin	4	7	11
Hair .. .. .	..	28	28
Emotional	4	5	9
Teeth	12	7	19
Heart and Circulation—Lungs ..	..	2	2
Headaches	1	1	2
Obesity	7	14	21
E.N.T.	3	3	6
Speech	1	..	1
Orthopaedic	2	..	2

In the follow-up of notified defects, the sisters interviewed 2,399 children and made 1,017 home visits. The follow-up work revealed that only 39·5 per cent of the children notified were receiving adequate treatment within 3 months of notification; a further 9 per cent had commenced treatment by the end of the year; 6·5 per cent had left the district before follow-up. Of the remaining 45 per cent, 26 per cent required further follow-up and 19 per cent remained untreated despite further parent interviews.

Medical Examinations—Child Health Centre

A total of 768 examinations were carried out at the Child Health Centre of which 521 were new cases.

The source of referral was:

Parent or School Medical Officer after consultation with parent	225
Teaching Staff	159
Division of Guidance and Adjustment or School Counsellors	29
General Practitioners	24
Speech Therapist	59
Other Organizations	25

Hearing Clinic

During the year 824 cases were investigated at the Hearing Clinic. The new cases numbered 329 and 495 were review examinations.

Results of examinations	Boys	Girls	Total
New cases normal hearing	73	67	140
Review cases normal hearing	126	77	203
New cases remedial	87	75	162
Review cases remedial	75	54	129
New cases chronic deafness	5	7	12
Review cases chronic deafness	22	12	34
New cases recommended for or receiving treatment	64	59	123
Review cases recommended for or receiving treatment	33	34	67

No child was recommended for placement in an Opportunity Deaf class or Deaf school and no child was recommended for a hearing aid.

Nursery Schools and Pre-School Kindergartens

During the year, 21 visits were made to the five Departmental Nursery Schools in the area and 3 visits were made to a non-departmental pre-school kindergarten. Details of Medical Examinations are as follows:

Nursery Schools (Departmental)

Number examined by medical officer—									
Full examinations	..	..	..	..	..	..	..	..	213
Review examinations	..	..	..	..	..	..	..	..	127
Total	..	..	..	..	..	..	..	..	340
Notifiable defects	..	..	..	..	..	..	..	..	44
Parent interviews	..	..	..	..	..	..	..	..	145
The notified defects were:									
Vision	..	..	..	..	..	..	..	..	1
Strabismus	..	..	..	..	..	..	..	..	5
Hearing	..	..	..	..	..	..	..	..	7
Skin	..	..	..	..	..	..	..	..	4
Orthopaedic	..	..	..	..	..	..	..	..	8
Heart	..	..	..	..	..	..	..	..	1
E.N.T.	..	..	..	..	..	..	..	..	9
Emotional	..	..	..	..	..	..	..	..	9

Pre-School Kindergarten (Non-Departmental)

Number examined by medical officer—									
Full examinations	..	..	..	..	..	..	..	..	23
Review examinations	..	..	..	..	..	..	..	..	7
Total	..	..	..	..	..	..	..	..	30
Notifiable defects	..	..	..	..	..	..	..	..	2
Parent interviews	..	..	..	..	..	..	..	..	20

Well Baby Clinics

Medical officers conducted three Well Baby Clinics at Glebe, Newtown and Dulwich Hill Baby Health Centres. Details of the work are included in the Section of Maternal and Infant Care Report.

Regular discussion groups were held during the year and these were attended by the combined Centre staff and school counsellors. Talks were also given to local school organizations.

PARRAMATTA CHILD HEALTH CENTRE

P. O'FLYNN, M.B., B.S., D.P.H.

During 1966 a total of 17,368 children were examined in the schools of the Parramatta Child Health Centre area.

Examinations in Schools

Primary Schools

Full examinations by medical officers	..	..	..	..	..	6,698
All grades, review examinations by medical officers and nurses	..	..			..	6,572
4th grade only—mainly conducted by nurses	..	..	..	..	..	2,888

High Schools

Review examinations—						
Not referred to medical officer	..	..	..	..	..	3,776
Referred to medical officer	..	..	..	..	..	322
Total	..	..	..	..	..	4,098

During the examinations 184 defects were notified. These were:

Defect	Boys	Girls	Total
Vision	53	83	136
Hearing	20	14	34
Skin	2	..	2
Emotional	5	1	6
Orthopaedic	3	..	3
Teeth .. .. .	..	1	1
Speech	1	1	2

The school sisters made 977 home visits and followed up 936 children with notifiable defects; of these 83 per cent had been treated within 3 months of notification.

Special Schools

Four special schools, "May Villa" Child Welfare Department, Dundas, Hassall Street Public School and the partially-seeing units at Lidcombe Public School and Northmead High School were visited once or twice each term as considered necessary.

New admissions to "May Villa" and Hassall Street Public School were fully examined and the children in all the schools were regularly reviewed.

Medical Examinations—Child Health Centre

At the Centre 60 children had their vision tested at the request of their teachers, parents or ophthalmic surgeons (pre-school private patients referred because testing in the consulting room had been unsatisfactory.)

A total of 1,198 appointments were kept with the medical officers and of these 650 were new cases.

An analysis of the new cases showed that 434 attended public schools, 142 attended private schools and 74 were pre-school children.

The referring agencies were as follows:

Parent applications	197
Specialists and General Practitioners	157
School Medical Officers	74
Headmasters and Infants Mistresses	70
Speech Therapists	57
Department of Education (Western Area)	38
School Counsellors	19
Baby Health Centres	15
Other Agencies (Department of Child Welfare and Social Welfare, Church Homes)	23

Disposal of new cases was as follows:

Referred for review by medical officers	314
Referred for psychiatric evaluations	210
One interview only	126

In the cases of the 126 children where one interview only was undertaken at the Centre referral to speech therapists or the Department of Education for further action was effected in many cases.

Of the 314 cases referred for review appointment with medical officers a percentage were later channelled to psychiatric appointment following investigations such as electroencephalograms,

Hearing Clinic

During 1966, 380 new cases and 478 reviews were examined at the clinic.

Results of Examinations	Boys	Girls	Total
New cases with normal hearing	59	45	104
Review cases with normal hearing	145	129	274
New cases recommended for or under treatment	18	21	39
Review cases recommended for or under treatment	38	30	68
New cases remedial E.N.T.	50	33	83
Review cases remedial E.N.T.	90	46	136
Cases recommended for Opportunity Deaf Classes	10	2	12
Chronic deafness	80	38	118
Cases wearing hearing aids	16	8	24

Pre-School Kindergartens

During the year, 6 pre-school kindergartens were visited. In 5 of the 6 kindergartens the examinations commenced during the latter half of the year and the number of children seen was therefore small.

<i>Number examined by medical officer</i>									
Full examinations .. .. .	..	..	..	..	..	..	..	..	201
Review examinations .. .. .	..	..	..	..	..	..	..	..	1
Total .. .. .	..	..	..	..	..	..	..	..	<u>202</u>

Number of parent interviews, 76.

The Matron of Havilah Home was also interviewed concerning 19 pre-school children.

Well Baby Clinics

Two Well Baby Clinics were conducted at Auburn and Granville Baby Health Centres one afternoon each week at each Centre. Details of the work are included in the Section of Maternal and Infant Care report.

CHILD HEALTH CENTRE, RYDE

M. GOLOMB, M.B., B.S.

The total population of the 92 schools covered by the Centre was approximately 53,000. In addition, 8 special schools comprising schools for handicapped children and schools conducted by the Department of Child and Social Welfare are covered by this Centre.

During the year the medical inspection of 72 schools was completed. The remainder were not examined owing to a medical and nursing staff shortage. However, contact was maintained with these schools and selected cases interviewed at the Centre.

Examinations in Schools

Primary Schools

Full examinations by medical officers	5,042
All grades, review examinations by medical officers and nurses	6,478
4th grade only—mainly conducted by nurses	2,806

High Schools

Review examinations—	
Not referred to medical officer	7,389
Referred to medical officer	433
Total	<u>7,822</u>

Defects notified numbered 425 and comprised the following:

Defect	Boys	Girls	Total
Vision	133	116	249
Hearing	69	39	108
Skin	1	2	3
Hair	1	2	3
Emotional	11	13	24
Thyroid .. .. .	..	1	1
Teeth	8	3	11
Obesity .. .. .	..	5	5
Speech	10	4	14
Child Guidance	2	..	2
General Health	2	..	2
Headache	1	..	1
Orthopaedic	2	..	2
Hygiene .. .. .	..	1	1

In the follow-up of notified defects or special interviews requested by Centre staff the school sisters interviewed 1,770 children and 952 home visits were made. Of the 703 children with defects, 544 had received treatment within 3 months, 90 had not received attention, 1 had resolved and the results of 68 were unknown.

Special Schools

Full examinations by medical officer	111
Review examinations by medical officer	81
Total	192
Parent Interviews	35
Notifiable defects	33

Medical Examinations—Child Health Centre

During 1966, 984 medical examinations were carried out at the Child Health Centre. This total included 751 new cases and 233 review examinations.

The referring agencies of new cases were as follows:

Centre Staff	184
Parents	321
Teaching Staff	140
Medical Practitioners	53
Division of Guidance and Adjustment (including School Counsellors) ..	35
Other agencies (including Section of Maternal and Infant Care, Department of Child and Social Welfare, Catholic Family Welfare Bureau) ..	18

Hearing Clinic

The Hearing Clinic operated on two half day sessions weekly and during the year 380 new cases were seen and 343 were reviewed.

Details of the work of the Hearing Clinic is as follows:

Results of examinations	Boys	Girls	Total
New cases with normal hearing	48	32	80
Reviews with normal hearing	79	68	147
New cases recommended for or under treatment	164	85	249
Reviews recommended for or under treatment	89	51	150
New cases with remedial defects	6	9	15
Reviews with remedial defects	3	..	3
New cases recommended for deaf school	1	..	1
Chronic deafness	46	28	74
Hearing aid recommended	1	..	1
Hearing aid provided	6	7	13

Pre-School Kindergartens

Four pre-school kindergartens and three institutions for pre-school children, one conducted by the Department of Child and Social Welfare and two by church organizations were visited.

Number examined by medical officer

Full medical examinations	..	..	..	..	..	..	..	299
Review examinations	..	..	..	..	..	..	..	3
Total	..	..	..	..	..	..	..	<u>302</u>
Notifiable defects	..	..	..	..	..	..	..	58
Parent interviews	..	..	..	..	..	..	..	155
Defects notified were:								
Vision	..	..	..	..	..	..	..	10
Hearing	..	..	..	..	..	..	..	13
Vision and Hearing	..	..	..	..	..	..	..	1
Speech Defect	..	..	..	..	..	..	..	3
Heart	..	..	..	..	..	..	..	1
Orthopaedic	..	..	..	..	..	..	..	7
Nocturnal enuresis	..	..	..	..	..	..	..	20
Teeth	..	..	..	..	..	..	..	2
Emotional problem	..	..	..	..	..	..	..	1

Well Baby Clinic

Staff was provided to conduct the Well Baby Clinic at Ryde Baby Health Centre for one session each week; details included in report of Section of Maternal and Infant Care.

Throughout the year lectures were also given to school and local organizations within the area.

CHILD HEALTH CENTRE YAGOONA

J. STEPHENSON, M.B., B.S., M.R.C.S., L.R.C.P.

The total population of the 76 schools covered was approximately 46,000.

During the year 72 schools were examined and the remaining four schools will receive priority in 1967. In addition, three visits were made to each of the following special schools for retarded and handicapped children:

Sydenham-Bankstown Branch Sub-Normal Children's Welfare Association.

Bankstown Handicapped Children's Centre.

Bankstown-East Hills School for Special Purposes.

Examination in Schools

Primary Schools

Full examinations by medical officers	..	..	..	..	..	6,160
All grades, review examinations by medical officers and nurses	..	..			..	6,586
4th grade only—mainly conducted by nurses	..	..	..	..		2,950

High Schools

Review examinations—

Not referred to medical officer	6,279
Referred to medical officer	468

Total	<u>6,747</u>
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The defects notified numbered 318 and these were:

Defect	Boys	Girls	Total
Vision	76	135	211
Hearing	33	22	65
Hair .. .. .	..	4	4
Emotional	4	..	4
Thyroid .. .. .	..	1	1
Teeth	12	10	22
Obesity	8	3	11

Follow-up visits to the schools totalled 2,776 and the results showed that 63 per cent of the children had received treatment of the notified defect within three months.

Medical Examinations—Child Health Centre

During the year 1,054 medical examinations were carried out at the Child Health Centre.

A total of 735 new cases were assessed and of these 319 were reviewed. The ratio of boys to girls was 1·8 : 1 and the new cases were referred from the following agencies:

School Medical Officers	124
General Practitioners and Hospitals	104
Parents (direct or via school medical officer)	185
Headmasters and teachers (direct or via school medical officer)	88
Department of Education	82
Speech Therapists	113
Department of Child and Social Welfare	15
Baby Health Centre	15
Other (Police, Social Agency)	9

Of the above group 550 attended Departmental Schools, 114 attended Private Schools, 67 were pre-school children and 4 were not attending school.

After assessment the cases were managed as follows:

Referred to Child Guidance Clinic	140
Managed by medical officer (parent counselling, special school placement)	234
Referred to family practitioner	20
Referred for special investigation (I.Q., E.E.G.)	25
Referred for Speech Therapy	58
Discharged after one interview	258

Hearing Clinic

The Hearing Clinic operated for two half days a week and a total of 308 new cases and 399 review cases were investigated during the year.

Audiometric testing was also carried out on request from the local general practitioners.

Results of examinations	Boys	Girls	Total
New cases normal hearing	80	47	127
Review cases normal hearing	56	33	89
New cases referred for or under treatment	52	42	94
Reviews referred for or under treatment	63	50	113
New cases remedial	77	61	138
Reviews remedial	59	48	107
Cases recommended for Deaf School	0	1	1
Cases recommended for Opportunity Deaf Classes	1	..	1
Chronic deafness	4	1	5
Cases and reviews recommended for Hearing Aids	10	7	17

Pre-School Kindergartens

Two pre-school kindergartens were examined from the Centre. One of these was examined for the Section of Maternal and Infant Care and details are recorded in the appropriate report.

Details of examinations at the other pre-school kindergartens are as follows:

	<i>Number examined by medical officer</i>							
Full examinations	12
Review examinations	Nil.
Notifiable defects	2
Parent interviews	6

Well Baby Clinics

Two Well Baby Clinics were conducted, one at Campsie Baby Health Centre and the other at Yagoona Baby Health Centre.

The clinics operated on a fortnightly basis and details are recorded under the Section of Maternal and Infant Care.

Weekly case conferences were held throughout the year and these have proved valuable in assisting the staff with the management of cases referred to the Centre as well as with parent interviews.

The medical officers also participate in giving lectures to various parent and other groups within the area and during the year 23 lectures were given.

CHILD HEALTH CENTRE, NEWCASTLE

The report on the Centre will be found in the Annual Report of the Medical Officer of Health, Newcastle Health District.

THE COUNTRY COUNCIL'S SCHEME FOR THE MEDICAL EXAMINATION BY LOCAL MEDICAL PRACTITIONERS OF SCHOOL CHILDREN IN COUNTRY MUNICIPALITIES AND SHIRES

At the end of the year the scheme was functioning in 109 country municipalities and shires (115 in 1965).

In 9 local government areas the authorities declined or deferred acceptance of the scheme (10 in 1965) and it was still being considered in 21 areas (28 in 1964).

During the year children in 872 schools were examined (866 in 1965), 19,214 were fully examined and 12,804 were reviewed.

TEACHERS TRAINING COLLEGES

During the year 1966 the health of the students attending the 8 Teachers Training Colleges throughout New South Wales was supervised by 8 full-time and 3 part-time medical officers seconded from the Section of Child Health.

Lectures were given to all students on first-aid, personal health, health education and "practice teaching" was supervised.

SYDNEY TEACHERS COLLEGE

Medical Officer: ALWYNNE COSTER M.B., B.S., D.T.M. & H.

Enrolment

Main College (University Grounds)	..	..	..	..	..	..	1,543
North Newtown Annexe	..	..	..	..	..	..	377
Undergraduates of Sydney University (linked with main College)	..						1,841
Undergraduates of the University of N.S.W. (linked with main College)	..						251
Total	..	..	..	..	..	..	4,012

Staff

Medical and lecturing duties were carried out by three full time medical officers. Two being responsible for 3,635 students at the main College and one medical officer for 377 students at the North Newtown Annexe.

Lectures

Graduate students taking the Diploma in Education or the Fourth Year Professional Course for the Teachers Certificate (498 students) received one lecture per week in Health Education in Lent and Trinity Terms. All other final year students received one Health Education lecture per week throughout the academic year (21 lectures). These lectures were varied to meet the needs of specialised sections; students of physical education were given more detailed instruction in the prevention and first aid management of sports injuries; primary trainees were given instruction in methods of teaching the health syllabus in primary schools. In 1966 there were 21 college sections (excluding graduates) receiving these lecture courses.

In addition lectures in first aid were given at the Sydney Technical College and a special course of lectures was arranged for trainee matrons preparing to work with the Department of Child and Social Welfare.

Many lecture topics were supplemented by films, particularly those relating to the medical aspects of cigarette smoking, nutrition, the problems of obesity, venereal disease and sex education.

Arrangements were also made for visiting lecturers to address the students on various topics and those who participated included the Director, Division of Tuberculosis, the Director, Division of Health Education, Dental Officers of the Division of Dental Services and Officers of the Royal Life Saving Society.

MEDICAL SUPERVISION OF STUDENTS

Counselling of Students

During 1966, approximately 80 students were referred for psychiatric interviews. In addition, those with less severe emotional tensions, home problems, etc., were counselled by College medical officers in consultation with section advisers and/or members of the College administrative staff. Students referred to psychiatric clinics were followed up and records kept of their progress.

First-aid Treatment and General Health Advisory Service

The majority of injuries requiring first-aid treatment occurred during physical education classes and competition sports. After emergency treatment, cases requiring further supervision were referred to the Royal Prince Alfred Hospital, the Lewisham Sports Clinic or to private practitioners.

Students with other health problems were medically advised and, if further investigation was warranted, were referred to their own family doctors or to hospital out-patient departments for treatment.

Students resuming lectures after sick leave were interviewed and records kept of all significant illnesses.

Medical Examination of Students

During the first quarter of the year, 977 incoming students were examined.

All final year students on scholarships totalling 1,047 were medically examined for super-annuation benefits. Medical officers from the Child Health Centres assisted with this work during the school vacation periods.

Other Remarks

New Courses

During the third term Dr Coster was a member of the committee and working party preparing a draft document on Teacher Preparation in Health Education.

Plans are already under way at Sydney Teachers College to commence a new course in 1967 for graduate students wishing to take Health Education as their second method subject with a view to teaching this to first and second forms in Secondary Schools.

It is also planned to provide additional courses for students and teachers of physical education for the teaching of Health Education at the Secondary level.

Examinations

Written papers were set and marked for 1,215 students during the year and, in addition, viva voce examinations were held for candidates for the Reuter Roth Memorial prize in Health Education.

Staff Meetings

College medical officers attended weekly staff meetings at Sydney Teachers College and in final term an address was given to the staff on the work of the Health Education Department within the College.

ALEXANDER MACKIE TEACHERS COLLEGE, PADDINGTON

Medical Officer: JEAN M. CULL, M.B., B.S., B.A., Dip.Ed.

Intake of students to the College continued to increase in 1966 and will continue to do so until 1968. A Diploma in Education Course, in conjunction with the University of New South Wales, was instituted during the year.

Enrolment of Students

First year—10 sections	..	..	..	..	..	..	..	282
Second year—10 sections	..	..	..	..	..	..	..	255
Third year—4 sections ..	..	..	..	..	..	..	..	77
Fourth year—3 sections	..	..	..	..	..	..	..	80
Undergraduates, 1st, 2nd, 3rd Year	..	..	..	..	..	..	..	248
Total	..	..	..	..	..	..	..	942

Staff

Medical and lecturing duties were carried out by one full-time medical officer and one part-time medical officer (one and a half days per week during term time.)

Lecturing Duties

Lectures in Health and Health Education were given to twelve sections of students. Examination papers were set and marked. Practice teaching was supervised. Lecture material and notes for students were prepared, pamphlets were prepared and distributed and a large number of new books in the field was added to the College Library. Lecture aids were made or obtained.

Medical Supervision

Sick Leave.—Applications for sick leave were reviewed. Follow-up interviews were conducted where indicated.

Special Interviews.—These were conducted with students at the request of the Principal, Head Office or individual students.

Supervision of Students.—Defects or disabilities were supervised.

First Aid Treatment.—The number of students interviewed varied from day to day. The average for the year was 200 per month.

Students Examined

Incoming	..	..	..	..	..	..	..	..	..	530
Outgoing ..	..	..	..	..	..	..	..	..	..	248

Other Remarks

With the increasing number of students there has been an increase of work in all fields. This trend will continue until 1968 when the enrolment is expected to stabilize at 1,200 students.

BALMAIN TEACHERS COLLEGE

Medical Officer: MARY A. HIELD, M.B., Ch.B., M.C.R.S., L.R.C.P., D.P.H., D.R.C.O.G.

Enrolment

Balmain Teachers College

1st year	..	..	..	..	..	..	..	..	..	183
2nd year	..	..	..	..	..	..	..	..	..	161
Total	..	..	..	..	..	..	..	..	..	344

Orange Grove Annexe

1st year course for Mentally Retarded	..	..	..	..	..	20
2nd year course for Mentally Retarded	..	..	..	..	..	21
Total	..	..	..	..	..	41
Total	..	..	..	..	..	385

Staff

One full-time medical officer.

Lectures

Eight lectures per week were given to Balmain College students throughout the year. In addition, two lectures per week were given at North Newtown Annexe during the first term and a course of ten lectures was given at Orange Grove during April and May, 1966.

Seven demonstrations were arranged at North Sydney Demonstration School during the year. A lecture period was given to discussion of the demonstrations. During both practice teaching periods Primary schools were visited and health lessons given by first and second year students.

Medical Supervision

Students were examined either on personal application or at the request of the Principal or Warden for acute and chronic conditions. Counselling was given in some cases and cases requiring further investigation or treatment were referred.

Accident cases were given first-aid or referred to Balmain District Hospital.

Students Examined

Incoming

Two hundred incoming students were examined.

Outgoing

One hundred and fifty-eight outgoing students were examined.

TEACHERS COLLEGE ARMIDALE

Medical Officer: ANN L. LINSELL, M.B., B.S., D.P.H.

Enrolment

Armidale

1st year	..	..	..	..	..	..	..	..	..	239
2nd year	..	..	..	..	..	..	..	..	..	210
Total										449

University of New England

1st year	..	..	..	..	..	..	..	..	..	132
Dip. Ed.	..	..	..	..	..	..	..	..	..	150
Others	..	..	..	..	..	..	..	..	..	274
Total										556

Staff

One medical officer full time.

Lectures

The College curriculum follows a modified semester system. Lectures are given on the history of medicine and the history of Public Health in Australia. The subject matter of these studies is considered by groups of students together with their tutors. Assignments are set covering the various topics and an examination held at the end of each semester.

One major study and four elective studies are undertaken by all students, as well as Skills of Communication and Education which includes Child Development. Health and Physical Education is included in the course of special methods and it consists of lectures in Health Method and demonstration lessons.

First year students attend swimming school at the end of the year and are given a course of first aid and examination in the subject.

At the end of this year twenty-six students elected to attend a course in First Aid by the St John's Ambulance Brigade.

Diploma of Education students from the University of New England were given a course and examination in Health Education.

External Diploma of Education students received prepared units of the material and were examined.

Medical Supervision

All students are under medical supervision. Those resuming after sick leave are referred to the Medical Officer. Any with illness or injury requiring treatment are referred to their own doctors or the local hospital. Advice is frequently sought by students concerning problems of physical and emotional health.

Students Examined

Incoming

All incoming students on Teachers College Scholarships to Armidale Teachers College and to the University of New England were fully medically examined including chest x-ray and urinalysis. Those found to have defects were supervised throughout their training.

Three hundred and twenty-five incoming students were examined.

Outgoing

Outgoing Teachers College Scholarship students both 2-year College Trainees and University Diploma in Education students were all fully medically examined.

Two hundred and sixty-four outgoing students were examined.

Other Examinations

Medical examinations were also carried out at the College of applicants for Departmental teaching positions and all children attending departmental primary schools in the City of Armidale were medically examined.

TEACHERS COLLEGE BATHURST

Medical Officer: JUDITH WEAVER, M.B., B.S.

Enrolment

1st year	..	..	..	..	..	..	..	..	..	184
2nd year	..	..	..	..	..	..	..	..	..	171
Total	..	..	..	..	..	..	..	..	..	<u>355</u>

Staff

One part-time medical officer.

Lectures

Twenty-five lectures were given in Health Education with the aid of charts and models. Students showed considerable interest in relevant cuttings posted regularly on the notice board.

A class test and examination were given in the second term.

Medical Examinations

Incoming

In first term 172 students were medically examined. All were X-rayed at Bathurst District Hospital and no cases of pulmonary tuberculosis were detected.

Outgoing

In second and third term 171 outgoing students were examined for superannuation benefits. All were X-rayed by a Mobile Unit at the College.

TEACHERS COLLEGE NEWCASTLE

Medical Officer: F. GRIVAS, M.B., B.S.

Enrolment

Male Students	..	..	..	..	..	..	..	..	..	422
Female Students	..	..	..	..	..	..	..	..	..	726
Total..	..	..	..	..	..	..	..	..	..	<u>1,158</u>

Staff

One full time medical officer.

Lectures

Lectures were given to all second year and post graduate students once weekly for a total of twenty-six lectures. The syllabus followed this year was slightly modified to give more emphasis to the social aspects of medicine and the preventive aspects of mental illness. Brain damage, with its mental and physical sequelae was included in the course with emphasis on minimal brain damage as a cause of behaviour and communication disorders in childhood—speech disorders and mental retardation in children were also included from the aspect of management in the class setting.

It is planned to try and arrange a visit to Watt Street and Stockton for the students in 1967.

Medical Supervision

The students were medically supervised throughout their training period.

Interviews were carried out and special examinations whenever warranted. Students with poor attendance records were also interviewed.

Students Examined

Incoming

459 incoming students were examined.

Outgoing

490 outgoing students were examined.

TEACHERS COLLEGE WAGGA WAGGA

Medical Officer: KENNETH REW, M.B., B.S., M.R.C.O.G.

Enrolment

1st year	..	..	..	..	..	..	..	..	..	..	217
2nd year	..	..	..	..	..	..	..	..	..	..	144
Total..	..	..	..	..	..	..	..	..	..	..	361

Staff

One part-time medical officer.

Lectures

A course of 26 lectures in Health Education was given to each of the seven sections in second year. Topics included were:

- Normal growth and development.
- The structure and function of the body.
- Health and the individual.
- Health and the community.
- The child at school.
- The detection and special management of handicapped children.

Lectures were illustrated with posters, drawings and films and discussions between lecturer and students encouraged.

Medical Supervision

Throughout the year all students were medically supervised and those requiring more than simple counselling or care were referred to their own medical practitioner for further investigation and treatment.

All students resuming after sick leave or treatment were reviewed for fitness.

There is good liaison with the college staff and the Matron of the resident hostel and students with various emotional or study problems are frequently referred for assessment.

Students Examined

Incoming

217 incoming students were examined.

Outgoing

144 outgoing students were examined.

TEACHERS COLLEGE WOLLONGONG
Medical Officer: BERYL I. FORD, M.B., B.S.

Enrolment of Students

General Primary and Infants Students

1st year	..	..	..	..	..	..	..	..	..	180
2nd year	..	..	..	..	..	..	..	..	..	208
Total..	..	..	..	..	..	..	..	..	..	388

P.E. Diploma Students

1st year	..	..	..	..	..	..	..	..	..	39
2nd year	..	..	..	..	..	..	..	..	..	41
Total..	..	..	..	..	..	..	..	..	..	80

University Students

1st year	..	..	..	..	..	..	..	..	..	41
2nd year	..	..	..	..	..	..	..	..	..	22
3rd year	..	..	..	..	..	..	..	..	..	11
4th year	..	..	..	..	..	..	..	..	..	2
Total..	..	..	..	..	..	..	..	..	..	76
Grand Total	..	..	..	..	..	..	..	..	..	544

Staff

One full time medical officer.

Lectures

Lectures were given in Health Education to second year students. These were for general primary and infants' students, one to each section per week, making a total of seven lectures each week.

A series of six first-aid lectures were given and forty-nine students succeeded in gaining their St John's First Aid Certificates.

Demonstrations were arranged for all the General Primary and Infants sections, two for each section, a total of ten demonstrations. In addition, four special demonstrations were arranged for the P.E. Diploma students.

During the year arrangements were also made for a guest speaker to address the students. A psychologist from the Langton Clinic discussed the causes and problems of alcoholism and the students were asked to participate in a research project involving the filling in of a questionnaire.

Medical Supervision

All students were medically supervised throughout the year and approximately 30 per cent of the incoming students were reviewed to check medical defects detected during the entrance examination.

Requests and staff referrals for medical interviews totalled over 780 for the year and any student requiring treatment or further investigation was referred.

First aid was also given for minor accidents.

Students Examined

Incoming

260 students were examined with the assistance of the medical and nursing staff of the South Coast Health District. The Physical Education staff of the College assisted with the clerical aspect.

Outgoing

208 outgoing students were examined. Assistance being again given by the medical staff of the South Coast Health District.

MEDICAL EXAMINATIONS AT HEAD OFFICE

The Sections of Child Health and Special Services arranged for examination of selected children and groups of children at Head Office.

Some children were referred for evaluation and advice by general and other medical practitioners, teachers, school counsellors, and parents because of behaviour and physical problems, and also by the Department of Education because of intellectual or physical handicaps. Similar consultations were made at child health centres and details appear in their respective reports.

In addition, requests for examinations were received from the Department of Child Welfare, the Dalwood Homes, the Aborigines' Welfare Board, the Far West Children's Health Scheme, the Big Brother Movement (British Youth Migration) and the Public Schools Amateur Athletic Association.

Pupils, in the upper forms of high schools who proposed to apply for teachers' college scholarships were, on request, medically examined to determine their suitability.

Also, all children admitted to Stewart House Preventorium were inspected by school medical officers. The following are the figures for some of these examinations:

1. "Little Brothers" sponsored by the Big Brother Movement	..	..	156
2. Suitability examinations for entry to teachers' colleges	..	..	14
3. Examination of children for P.S.A.A.A.	..	..	18
4. Special Referrals	..	..	274

Two hundred and fifty "Little Brothers" were examined in 1965, but in 1966 the number dropped because this task was delegated to two of the child health centres closer to the homes used by the Big Brother Movement.

Thirty-eight suitability examinations were performed in 1965, but the number has been falling steadily every year since the new method of screening incoming students has been brought in and the practice of sending warning letters dropped.

PRE-SCHOOL EXAMINATIONS AT NURSERY SCHOOLS OUTSIDE CHILD HEALTH CENTRE AREAS IN THE METROPOLITAN AREA

Two of the five medical officers working outside child health centre areas continued to visit pre-school establishments in their school districts. They made 65 visits to eleven schools and examined 296 boys and 231 girls.

MINDA REMAND CENTRE

Medical Officer: J. F. SULLIVAN, M.B., B.S.

"Minda" Remand Centre was officially opened by His Excellency the Governor of New South Wales, Sir Roden Cutler, V.C., K.C.M.G., C.B.E., on 6th May, 1966.

Children were first admitted to the Centre on Monday, 31st May, 1966.

This institution, under the direction of the Department of Child Welfare and Social Welfare is the newest and most modern of all such institutions in New South Wales.

Accommodation

45 girls.

32 junior boys.

38 senior boys.

These figures apply under normal condition. However, under extraordinary circumstances these numbers can be increased.

Sick-bay wards are also provided for the girls, junior boys, and senior boys, as well as separate accommodation for children with infectious disease, and semi-private rooms for those who for a specific reason may have to dress and leave the dormitories while the others are still sleeping.

Schooling is provided for those children eligible.

Medical Facilities

The medical officer concerned with the physical health and welfare of the children is provided by the Bureau of Maternal and Child Health.

Full laboratory and investigatory services are provided by the Institute of Clinical Pathology at Lidcombe State Hospital.

Medical and surgical problems requiring specialist consultation or treatment are referred to the appropriate clinic at Sydney Hospital.

Ophthalmic consultations are referred to Sydney Eye Hospital, Obstetrical and Gynaecological emergencies to the Women's Hospital, Crown Street, Sydney, while Orthopaedic problems requiring operative intervention are managed by Auburn District Hospital.

Children Detained

Minda Remand Centre, as the name suggests, is not a training centre. The children are detained at Minda under the following circumstances:

1. Arrested children, awaiting appearance in Court.
2. Children remanded under section 133 of the Child Welfare Act, wherein they are investigated to confirm or exclude the presence of Venereal Disease.
3. Children remanded by the Court for a physical and mental survey.
4. Committed children, awaiting placement at a suitable training centre, or awaiting the hearing of an appeal.

Medical Examinations

GIRLS. All girls admitted to the Remand Centre have a thorough physical examination including C.N.S. examination, vision, hearing, and urinalysis.

BOYS. The boys have a thorough physical examination including urinalysis if:

- (a) they are committed;
- (b) remanded for a physical and mental survey.

Laboratory examinations are only carried out on the request of the boy himself or the request of the management, and only if there is clinical evidence of disease.

Medical Treatment

Treatment is only permitted by the staff physician in the following cases:

1. Acute conditions requiring immediate essential therapy.
2. Committed girls or boys suffering from Gonorrhoea or Syphilis or any other venereal disease.

Statistics

As this is Minda's first year of operation, no figures for comparison with previous years are available.

GIRLS

1. *V.D. and Pregnancy*

Number of different girls admitted	553
Readmissions (not included above)—	
Admitted twice	53
Admitted three times	4
Number of different girls investigated for V.D.	441
Number of cases of Gonorrhoea	76
Number of cases of Syphilis (both primary stage).. .. .	2
Relative incidence of V.D. among girls investigated	17·6 per cent
Gonococcal "in-vitro" resistance to penicillin	23 per cent
Number of definite pregnancies	34
Incomplete Abortions	4

2. *Other Notifiable Lesions (Girls)*

Vision (worse than 6/9, one or both eyes)	67
Strabismus	15
Bilateral cataracts	1
Hearing (worse than 7/10, one or both ears)	19
Other causes	28

BOYS

Number of different boys examined	461
Cases of Gonorrhoea	2
Cases of Syphilis	0
Non-specific Urethritis	3
Vision	25
Strabismus	11
Marked Nystagmus	1
Hearing	12

All aspects of venereal diseases.
Menstruation.
Pregnancy.
Childbirth.
Contraception.
Hazards of abortion.
Cancer Detection Clinics.

Also, and more important still, is the fact that we have been able to establish with the patients a very good rapport. This has allowed the girls to become very co-operative in most instances and rendered a somewhat ungracious task far less unpleasant.

Excellent	12	40 per cent
Very much improved	3	10 per cent
Much improved	7	23.33 per cent
Improved	8	26.67 per cent
No improvement
	<hr/> 30	100 per cent

Excellent	(None classified as such as not under treatment for the full period of two years)	
Very much improved	6	42.86 per cent	
Much improved	4	28.57 per cent	
Improved	4	28.57 per cent	
No improvement	
							14	100 per cent	

Excellent	}						(None classified as such
Very much improved		..	..	..	..	..	as not under treatment
Much improved							for two years)
Improved ..	..	..	..	..	..	4	66·67 per cent
No improvement	..	..	..	..	..	2	33·33 per cent
						6	100 per cent

HEAD OFFICE NURSES WITH SPECIAL FOLLOW-UP DUTIES

Four nurses were employed in a special follow-up role in the Metropolitan area. They worked in the Manly-Warringah area and in the Western Suburbs, in districts where, as yet, there are no Child Health Centres.

These nurses, under the Senior Sister, work in the schools and community. Their function is to follow up children with health problems of any kind. This entails visiting schools and homes and discussing with school principals, parents, and others the child's problems.

Contacts are established with many organisations, Government Departments, and persons able to assist. This may mean establishing contacts with such organizations as the Department of Child Welfare, the Housing Commission, local ministers of religion, the Smith Family, the Red Cross, etc.

These nurses are free to follow up cases and seek solutions to their problems in any practicable manner with the help and cooperation of the resource organizations in the community.

TABLE—SUMMARY OF WORK CARRIED OUT BY NURSES ON FOLLOW-UP DUTIES

Activity	Numbers
Children seen and discussed in schools	4,001
Interviews with school Principals	757
Interviews with school Inspectors	6
Interviews with school Counsellors	36
Interviews with school Teachers	74
Home visits	2,115
Children transported to Clinics, Hospitals, Doctors, etc.	57

NOTE.—Two of the four nurses were employed for part of 1966 only.

The following is an example of the number and type of organizations contacted and used by one of the sisters:

The Food for Babies Fund.

The Smith Family.

Department of Child Welfare.

National Fitness Council and Fresh Air Fund.

Liverpool District Hospital.

The Royal Alexandria Hospital for Children.

Dalwood, Scarba, Carlingford, Burnside, and Barnardo Homes.

Junior Red Cross.

The Family Welfare Bureau.

Sydney City Mission.

Local doctors.

Local ministers of religion.

Welfare Section of the Housing Commission.

NATIONAL FITNESS CAMPS

Four nursing sisters from the Section are seconded to the Physical Education Branch of the Department of Education for duty at National Fitness Camps at Myuna Bay, Point Wolstoncroft, Broken Bay, and Narrabeen. These sisters supervise the health of children staying at the camp, mostly for ten day periods, and attend to all cases of injury and sickness, for which the assistance of a private practitioner or hospital casualty service is obtained as necessary.

They give talks on first-aid, hygiene, and other topics of health education and help the teaching staff to encourage the corporate spirit of camp life. At the end of each camp a report is forwarded to both the Physical Education Branch and the Assistant Director giving details of all injuries and sickness treated and of sanitation and hygiene.

Some difficulties had been experienced in the recruitment of suitable nursing staff, but by the end of the year, after advertisements for two vacant positions had been carefully framed, suitably interested applicants were found.

While nursing sisters are required at the camps, duties are not by any means confined to nursing. This factor and the fact that the post is residential in comparatively remote areas deters many applicants.

SECTION OF SPECIAL SERVICES

Assistant Director: W. HEMPHILL, M.B., B.S., D.C.H.

Location: 86-88 George Street North, Sydney

The Section continued during 1966 to provide diagnostic and advisory services for atypical children in the age range from birth to school-leaving. The functions of research, investigations, and in-service training were further developed, and specialised services were made available to an increased number of voluntary organisations, such as the Far West Children's Health Scheme. Extension of services was mainly achieved without any increase in staff—the exception being the addition of one psychiatrist, one psychologist and one social worker, to provide a Child Guidance team for the new Child Welfare Department children's shelter at "Minda".

STAFF

- 3 Senior Medical Officers.
- 1 Medical Officer.
- 1 Senior Psychiatrist.
- 9 Psychiatrists.
- 6 Part-time Psychiatrists
- 3 Trainee Psychiatrists.
- 1 Senior Psychologist.
- 18 Psychologists.
- 1 Senior Social Worker.
- 16 Social Workers.
- 1 Senior Speech Therapist.
- 21 Speech Therapists.
- 11 Trainee Speech Therapists.
- 10 Ear, Nose and Throat Specialists (part-time).
- 1 Ophthalmologist (part-time).
- 2 Nurses.

SPECIAL HOMES

Dalwood Health Home, Seaforth, was visited at regular intervals during the year to conduct medical examinations of children newly admitted, and to review the health and progress of those previously seen. Twenty-nine full examinations and thirty reviews were made. In view of the circumstances which usually pertain when a child is admitted to Dalwood, only four parents were available for interview. Each child examined was discussed with the appropriate authority in the Home and where it was indicated the school counsellor and teacher were contacted to discuss learning or behaviour problems.

FAR WEST CHILDREN'S HOME, MANLY

A new venture undertaken was the participation of a senior medical officer from the Section in the examination and management of children with speech defects who are brought from country areas to the Far West Children's Home. Such children are investigated by a panel consisting of a paediatrician, ear, nose and throat specialist, speech therapist, audiologist and psychologist and, following a conference of the panel, recommendations are made for treatment of the child. The efficacy of this type of composite evaluation is not proven, but as it is an accepted technique elsewhere the prospects for success are favourable.

SPECIAL SCHOOLS

A medical officer from the Section continued to visit those homes and schools for atypical children which are not in Child Health Centre areas in the Sydney metropolitan area. Details of the schools and homes, the authority conducting the facility, and the numbers of children examined are listed below.

School	No. of Visits	No. of Full Examinations	No. of Reviews	No. of Notifiable Defects	No. of Parents Interviewed
Department of Education—					
Stewart House	28	1,086	18	165	..
Glenfield Park Public School	11	2	336	9	1
Busby Special School	3·5	2	12	1	2
Minerva St Public School	6	33	28	10	8
Sunnyfield Public School	3	12	18	1	1
Child Welfare Department—					
Werrington Park	6	65	33	18	..
Raith	5	25	8	12	..
Lark Hill	9	46	24	17	..
Subnormal Children's Welfare Association—					
Dunrossil	7	32	33	13	16
Thomdale	4	15	21	3	14
Sutherland H.C.C.	3	14	19	5	5
Cooinda	3	7	16	5	5
Hoxton Park	6·5	25	20	8	3
Rainbow Lodge	3	6	22	2	..
Mater Dei Special School	3	9	21	1	..
Society for Crippled Children—					
Nepean District School	3	26	3	2	2
Total	104	1,405	632	282	57

Total Examinations—2,037.
Percentage Defects—13·8 per cent.

SPEECH CLINICS

During the year dual interviews by speech therapists and an itinerant senior medical officer visiting some of the Child Health Centres, were continued regularly.

Frequent visits were made to the Speech Clinics at Chatswood and Eastern Suburbs Child Health Centres, and fairly frequent visits were made to Parramatta and Beauty Point Speech Clinics. An occasional visit was made to Yagoona and to Bexley Child Health Centres.

A total of 167 visits was made to evaluate 416 children, including 303 boys and 113 girls. Two hundred and five children, 135 boys and 70 girls, previously assessed, were reviewed.

In addition, 52 children (42 boys and 10 girls) were seen in conjunction with a speech therapist at Head Office.

Referrals to the Clinics were made by paediatricians, general practitioners, dentists, school medical officers and sisters, and education authorities. Personal application to the Child Health Centres was made by a number of parents.

School teachers were kept informed of the number of children attending the clinics and they were advised on the management of the speech defect in the school situation.

Liaison was maintained also with teachers in the pre-school kindergartens attended by children with speech or language problems.

Seven children were referred to the Division of Guidance and Adjustment for psychometric testing and advice on learning problems, and others are to be referred later after observation and/or maturation. A number of children had been assessed at the Education Clinic before referral to the Speech Clinics.

The opinion of the Child Guidance Teams was requested in respect of 19 children with apparent emotional disturbances and dual therapy was carried out in some of these cases.

In addition, an increasing number of language evaluations was carried out by the clinical psychologists and their reports have been found most helpful in directing therapy and advice to teachers.

Six children were referred to the Commonwealth Acoustic Laboratory or to Hearing Clinics for evaluation of hearing defects.

One child was referred to a Rehabilitation Unit and one to Grosvenor Hospital.

A number of children were referred for neurological investigations.

Of the 468 children with speech problems, 205 had articulation disorders and in a number of these there were marked dysphasic and dyspraxic elements; 108 had dual speech defects; 67 were stammerers; 28 had sigmatism; 19 showed slow development of speech with evidence in some of specific difficulties and in others of intellectual handicap; 11 children had defective speech and hearing losses; 4 had hyperhinophonia; 9 had residual articulation defects after surgical repair of cleft palates; 8 were considered to have speech within normal limits, and 2 others had normal speech but evidence of dysphasic language impairment; 4 children were dysarthric and 2 dysphonic and 1 had a clutter.

Eighty-five children were accepted for treatment and 277 for follow-up at intervals. A further 22 children were to be seen for follow-up only if the parents remained worried after the initial interview and discussion of the speech defect. Twenty-four children are to be seen for review after a period of observation.

As previously noted, facilities and team work within the Child Health Centres made observation, investigation, diagnosis and treatment (including parent counselling) far more effective.

In addition, visits were made to the Speech Clinic at the Far West Children's Home, Manly, where 50 children were seen in 11 visits. These children were undergoing therapy for varying periods of time.

Of these, 25 had articulation disorders, 7 had dual speech defects, 6 had had cleft palates repaired, 3 were aphasic and 3 others were showing slow speech development; there were 2 each with stammer and hyperhinophonia and 1 each with dysarthria and sigmatism.

HEARING CLINIC

The Hearing Clinic continued throughout the year, five sessions being held weekly, attended by four ear, nose and throat specialists.

The Hearing Clinic at the Eastern Suburbs Child Health Centre was opened on 22nd November, 1966.

The children were referred to the Clinic by paediatricians, school medical officers, speech therapists, the Division of Guidance and Adjustment, Department of Education, Aborigines' Welfare Board, Child Welfare Department, out-patients departments of public hospitals, doctors in general practice, parents and school principals and teachers.

A total of 888 new cases were examined, of which 515 were boys and 373 girls. The number of cases reviewed was 731, of which 415 were boys and 316 girls. Detailed information of these cases is contained in the attached schedule.

As the Clinic is a diagnostic one and no treatment is carried out, children with treatable defects were referred to their family doctor or an out-patients department of public hospital for consultation with an ear, nose and throat specialist.

Children with hearing defects who would benefit from the use of a hearing aid were referred to the Commonwealth Acoustics Laboratory, who supply the aids free of charge to school children.

Children with severe hearing impairment requiring special education are referred to the Division of Guidance and Adjustment for placement in classes for deaf children. The counsellor for the deaf, an officer of the Education Department, is in attendance one day weekly for consideration of educational problems associated with deafness.

FIGURES RELATING TO WORK OF HEARING CLINIC, 1966

New Cases	Total	Hearing Normal	Deafness due to remedial condition	Chronic Deafness	Recommended or receiving treatment	Examination in O.D. Class	Hearing Aid—wearing same	Hearing Aid Recommended	Recommended for O.D. Class	Recommended for North Rocks
Boys..	515	191	289	43	268	..	10	10	6	9
Girls ..	373	134	222	28	188	..	6	6	5	6
Total ..	888	325	511	71	456	..	16	16	11	15
Reviews—										
Boys ..	415	171	230	32	169	..	11	6	3	..
Girls ..	316	119	172	38	128	..	10	5	3	..
Total ..	731	290	402	70	297	..	21	11	6	..

IN-SERVICE TRAINING FOR PUBLIC HEALTH NURSES

Two courses were conducted during 1966. The courses had an identical syllabus which covered preventive medicine and public health, human growth and development, social aspects of public health nursing, principles and practice of public health nursing, and health education. Theoretical instruction, group discussions and field visits were included. One of the courses was conducted one day per week for forty weeks and was attended by seventeen nurses who are stationed in the Sydney metropolitan area. In order that nurses from country centres could benefit from in-service training the second course in 1966 was conducted on a full-time basis over a period of eight weeks.

Candidates who were successful in the examination which took place at the conclusion of the courses were presented with a certificate which is registrable in New South Wales as an additional qualification in nursing.

VISITS TO COUNTRY CENTRES

As a continuation of the policy of providing some specialised services to children residing in country centres, visits were made to eight country centres (Dubbo, Forbes, Armidale, Wagga, Albury, Goulburn, Lismore and Grafton) by diagnostic teams. The usual composition of a team is medical officer, psychologist, social worker and speech therapist, and during a one-week visit about thirty atypical children are seen for evaluation of behaviour, learning, speech, or other defects. The children to be seen by the team are nominated by the family doctor, parent, school counsellor or school teacher, and recommendations about future management of the child are made to the appropriate authority. If investigations which are not available locally are indicated, arrangements are made for the child to be taken to a centre which provides them.

RESEARCH AND INVESTIGATIONS

The Section of Special Services was the liaison body between the Bureau of Maternal and Child Health and other groups in the following studies:

Study on 1,000 school children—with the Department of Education.

Enuresis in children—with the Department of Psychiatry, University of New South Wales.

CHILD GUIDANCE CLINICS

During 1966 the shortage of psychiatrists continued and of the nine positions on the establishment for psychiatrists two were occupied by part-time officers and one position was vacant. The position of senior psychiatrist remained vacant. Three graduates in medicine were employed as trainee psychiatrists and one of these achieved the Diploma in Psychological Medicine during the year and became Psychiatrist-in-Charge, Child Guidance Clinic, Brisbane Street.

There was an increased number of new cases referred to Child Guidance Clinics (4,037 compared with 3,425 in 1965). As in the immediately preceding three years, the number of children who received attention because of behaviour problems is not covered by the figures relating to Child Guidance Clinics because of the continuation of the policy of managing many such children on the medical officer-psychologist-social worker level, with referral to the complete guidance team where this is necessary.

The guidance team at Forest Lodge Child Health Centre continued its association with the Bridge Road Special School (for emotionally disturbed children)—a total of twenty pupils passed through the school, or attended for varying periods, during the year. Of the ten children who returned to their ordinary school setting all were regarded as being improved to some degree.

STATISTICS RELATING TO CHILD GUIDANCE CLINICS, 1966

	Brisbane Street	Bexley	Chatswood	Eastern Suburbs	Forest Lodge	"Minda"	Newcastle	Parramatta	Ryde	Yagoona	"Yasmar"	Grand Total
New cases, 1966	938	101	319	294	263	229	502	498	234	248	411	4,037
Continued from 1965	308	79	252	122	136	..	165	230	136	77	..	1,505
Old cases re-opened	16	14	..	82	15	..	69	15	3	2	..	216
Closed 1966	659	92	198	68	274	..	410	509	184	66	411	2,871
Attending and continuing to 1967	603	89	428	80	94	..	186	186	133	223	..	2,022
Total caseload, 1966	1,262	194	526	398	414	229	736	743	373	327	411	5,613
Referring Agencies—												
Personal Application	259	3	123	20	70	..	120	220	91	42	..	948
Children's Court or Police	168	4	2	91	2	229	14	3	1	4	411	929
Child Welfare Department	19	1	4	2	7	..	40	..	1	11	..	85
Education Department	131	2	78	3	91	..	90	146	59	60	..	660
Social Agencies	52	8	7	..	14	..	35	43	12	20	..	191
Private Practitioners	71	6	52	..	17	..	118	207	26	24	..	524
School Medical Service	236	75	30	172	55	..	40	76	33	39	..	756
Speech Therapists	2	2	23	3	7	..	45	48	11	48	..	189

STATISTICS FOR SPEECH CLINICS, 1966

	Beauty Point	Bexley	Brisbane St	Chatswood	Forest Lodge	Parramatta	Newcastle	Ryde	Tamworth	Wollongong	Yagoona	Glenfield	Totals
Current Cases 1-1-66	14	21	61	53	5	28	33	64	23	24	57	13	396
Follow-up Cases 1-1-66	61	227	180	131	31	173	200	56	49	59	203	..	1,370
No. Initial Interviews	120	206	161	329	86	305	297	249	128	130	256	11	2,278
No. Admitted/Re-admitted, Current	54	94	49	131	73	170	124	101	41	49	49	9	997
No. Admitted Follow-up	101	255	104	220	130	367	297	80	109	82	220	3	1,968
Current Cases 31-12-66	12	58	52	65	28	9	47	62	28	23	30	12	426
Follow-up Cases 31-12-66	68	264	210	195	53	90	162	58	105	48	178	3	1,434
Total Number Cases 1966	230	597	394	535	239	738	654	301	222	267	529	25	4,731
No. of Reviews	190	539	179	391	257	770	446	288	141	164	491	2	3,858
Total No. Individual Attendance 1966	1,290	2,992	2,816	2,992	1,494	4,067	3,073	3,822	1,137	2,297	2,334	518	28,832
Discharged Current F.T.A. or U.T.A.	3	6	17	20	5	28	26	18	..	16	6	2	147
Discharged Current Transferred	26	3	3	26	19	14	15	6	..	57	23	..	192
Discharged Current under Observation	27	48	38	73	26	147	69	79	36	30	47	8	628
Discharged Follow-up	94	218	74	156	108	450	335	78	53	83	245	..	1,904
Awaiting Initial Interview	3	36	30	39	4	32	14	45	59	3	17	..	282
Awaiting Urgent Treatment	23	8	5	19	15	86	4	38	17	7	31	..	253

Division of Dental Services

Director: W. B. HAYMET, B.D.S.

Location: 86-88 George Street North

STAFF

C. S. White, Senior Supervisory Dentist; 41 Dental Officers (full-time); 5 Dental Officers (part-time); 30 Dental Assistants; 2 Clerical Officers.

Anticipated progress in the School Dental Service did not materialize to any extent during 1966, mainly due to lack of finance. A small number of New Zealand trained dental nurses was employed continuously throughout the year proving themselves particularly capable in their duties. Their assistance was quite noteworthy in the aerial service based at Broken Hill, and operated in conjunction with the Royal Flying Doctor Service, N.S.W. Section. Children living in remote areas thus had the benefit of school dental treatment and advice which would not have otherwise been available.

Fortunately a marked change in attitude by the Australian Dental Association towards school dental nurses was evident throughout the year, and the liaison between the Service and that organization is now an amicable one. The Minister addressed a meeting of the N.S.W. Branch during October, and the Department is co-operating with the Association in an attempt to provide better dental services generally in outer country areas of N.S.W.

The usual pleasant liaison was maintained with the Dental Health Education and Research Foundation of the University of Sydney. Council and Committee meetings were regularly attended by the Division.

The dental service in Government Institutions continued satisfactorily with several new clinics being established, and increased services were provided in penal establishments, consistent with improved medical services.

The general output of the Division for the year was an increase on the previous year in the more important aspect of practical work accomplished. The number of fillings completed was again the highest in the history of the scheme. This was due in no small measure to the dental nurses. There were vacancies existing for dental officers during most of the year, particularly during the last school term. This was reflected in the smaller number of examinations completed during 1966. The staff position improved markedly at the very end of the year, and the establishment will be at full strength at the beginning of the 1967 school period.

DECENTRALIZATION

It is realised that the Division cannot expand efficiently with the present mode of administration, and recommendations have been made to progressively delegate dental services to the Health Districts. The Newcastle area should be autonomous early in 1967. Suitable staff for this purpose is already available in the Newcastle Health District.

The total services completed were as follows:

Examinations	..	..	..	..	..	..	..	..	..	123,725
Notified	..	..	..	..	..	..	..	..	..	53,365
New Cases	..	..	..	..	..	..	..	..	..	23,797
Repeat Cases	..	..	..	..	..	..	..	..	..	72,308
Total Cases	..	..	..	..	..	..	..	..	..	96,105
Extractions	..	..	..	..	..	..	..	..	..	40,548
Fillings	..	..	..	..	..	..	..	..	..	85,887
Treatments (including prophylaxis)	..	..	..	..	..	..	..	..	..	96,274
General Anaesthetics	..	..	..	..	..	..	..	..	..	153
Dentures	..	..	..	..	..	..	..	..	..	1,047
Denture Repairs	..	..	..	..	..	..	..	..	..	411
Orthodontic Appliances	..	..	..	..	..	..	..	..	..	237

SCHOOL DENTAL SERVICE

The Minister and the Under Secretary made a visit to New Zealand early in the year primarily to investigate the School Dental Nurse system. The scheme was found to be as efficient, effective and well-organized as its reputation indicated. The cost of any project of magnitude is formidable, and this has apparently proved a deterrent up to the present as far as the introduction of an equivalent scheme in N.S.W. is concerned.

Nevertheless, Tasmania has commenced the training of similar personnel and South Australia should commence in 1967. Other States have shown interest and such a system could become general throughout Australia within a decade. Fluoridation and food additives will lessen the problem to be overcome.

New Clinic Projects

A most suitable site for a school dental clinic was obtained from the Education Department at Moulder Street School, Orange. Plans and specifications for a three-surgery clinic have been completed and tenders are to be called early in 1967.

The clinic should be operating in July or August next.

Suitable accommodation was obtained in the Lands Department building, Fitzroy Street, Tamworth, and equipment already available is at present being installed. The clinic will be operating at the beginning of the 1967 school year.

The site at South Goulburn school, also made available by the Education Department, proved unsatisfactory due to expensive site preparations being necessary.

Mobile Clinics

The necessary funds were obtained to complete the remainder of the clinics requiring air conditioning. The Government Stores Department also made available two new prime-movers so that all clinics now are independent.

In the routine work of the School Dental Service 675 schools were visited. Of this number 359 were examined and parents notified of dental defects, and 316 were examined and treated by School Dental Clinics. The clinic at Stewart House operated continuously throughout the year. In addition, 27 homesteads, townships and hospitals were treated. Glenfield Park was as usual treated on a yearly basis.

The mobile clinics covered a wide area of the State including the Riverina, North Coast, Central Plains, Blue Mountains, Central Coast, Snowy River area, North-Western Slopes, New England, Far West and Central Coast. The service should be further extended during 1967.

Of 77,668 children considered in a survey of Infants' and Primary Schools, 69.36 per cent were found to need treatment, and the parents were notified. Only 11.8 per cent of these young children had naturally healthy teeth. A similar situation was revealed regarding 18,340 children 6 to 9 years presenting for treatment at the clinics. Of these 65.5 per cent required treatment only 9.8 per cent had caries free dentitions—and 73.5 per cent requiring treatment accepted the free services available.

AERIAL DENTAL SERVICE

The Royal Flying Doctor Service, N.S.W. Section, continued to provide air transport, from Broken Hill, to the Dental Officer, his Assistant and two Dental Nurses. The teams flew 51,435 miles and travelled 10,952 by road. It was again necessary to cross into South Australia and Queensland to conform with needs of the Royal Flying Doctor Service Network.

Some additional portable equipment was provided and requisition has been made for two new dental chairs to establish treatment centres apart from Tibooburra and Wilcannia Hospitals.

Including children from the Correspondence School 40 schools were treated. Of this number 15 received routine treatment, and 25 were treated on a continuous basis in 249 visits. Treatment was carried out in 153 visits for 27 homesteads, hospitals and townships—

Schools		Hospitals	Homesteads, etc.
Routine	Continuous		
Anabranch	Balranald	Tibooburra	Angepena S.A.
Barham	Balranald Convent ..	White Cliffs	Arrabury Q.
Barham Convent ..	Bourke	Wilcannia	Cordillo Downs S.A.
Buronga	Bourke Convent ..		Curnamona.
Broken Hill North ..	Cobar		Durham Downs Q.
Curlwaa	Cobar Convent ..		Epsilon.
Dareton	Darnick		Erudina S.A.
Gol Gol P.S.	Enngonia		Gol Gol Homestead.
Morgan Street	Hillston		Innamincka S.A.
Moulamein	Hillston Convent ..		Katalpa.
Pomona	Ivanhoe		Martin's Well.
Railway Town	Louth		Monolon.
Silverton	Manara Mine		Mt Arrowsmith.
Wentworth	Maude		Muloorina S.A.
Wentworth Convent ..	Menindee		Naryilco Q.
	Oxley		Nappa Merrie Q.
	Pooncarie		Nelia.
	Rufus River		Nepabunna S.A.
	Tibooburra		Noccundra Q.
	Tooleybuc		Wertaloona S.A.
	Wanaaring		Wirrealpa S.A.
	White Cliffs		Wooltana S.A.
	Wilcannia		
	Wilcannia Convent ..		Hungerford Township.
	Correspondence		Leigh Creek Township.

Penal Establishments

There has been a recent trend towards more comprehensive medical (psychiatric, etc.) services to prisoners, and it was considered that more dental treatment should be provided, particularly at the State Penitentiary. An additional dental officer was appointed in September. This permits continuity of treatment at the Penitentiary when one dental officer is on country circuit. Better emergency treatment arrangements were also arranged at the Goulburn Training Centre. The position will further improve when the new medical centre is completed at Long Bay.

A mobile school dental clinic continued to visit Kirkconnell Camp, and the new clinic at Glen Innes operated successfully throughout the year.

Work accomplished:

Examinations	..	..	..	..	..	..	..	..	..	3,105
New Cases	..	..	..	..	..	..	..	..	..	2,034
Repeat Cases	..	..	..	..	..	..	..	..	..	3,102
Total Cases	..	..	..	..	..	..	..	..	..	5,136
Extractions	..	..	..	..	..	..	..	..	..	3,347
Fillings	..	..	..	..	..	..	..	..	..	734
Other Treatments	..	..	..	..	..	..	..	..	..	2,894
Dentures	..	..	..	..	..	..	..	..	..	123
Denture Repairs	..	..	..	..	..	..	..	..	..	49

Child Welfare Department

The Division has been appreciative over the years of the co-operation received from the Child Welfare Department. This continued during 1966, and the usual regular service was provided to all Homes except that at Hay which is rather isolated, and where there are very few inmates. A new Home "Raith" at Campbelltown was included in the schedules of treatment.

Work accomplished

Examinations	..	..	..	..	..	..	..	..	..	3,234
New Cases	..	..	..	..	..	..	..	..	..	1,860
Repeat Cases	..	..	..	..	..	..	..	..	..	5,122
Total Cases	..	..	..	..	..	..	..	..	..	6,982
Extractions	..	..	..	..	..	..	..	..	..	3,648
Fillings	..	..	..	..	..	..	..	..	..	4,160
Other Treatments	..	..	..	..	..	..	..	..	..	3,788
Dentures	..	..	..	..	..	..	..	..	..	273
Denture Repairs	..	..	..	..	..	..	..	..	..	42
Orthodontic Appliances	..	..	..	..	..	..	..	..	..	1

CONCLUSIONS

Disappointment must be expressed that more progress was not made to consolidate school dental treatment. The School Dental Service cannot plan improved therapeutic programmes without the assurance of a constant supply of personnel to undertake the treatment. The position appears to be parallel to that in the Education Department where there could be no possibility of staffing the schools unless the Department trained its own staff.

Fluoridation is progressing well in N.S.W., and evidence in research indicates that food additives will also reduce the dental problem. It is most unlikely that this State will ever be committed to such an extensive system as that in New Zealand. Nevertheless, the basic cost of a training school and clinics in the twenty main provincial centres plus Sydney, Newcastle and Wollongong as a basis, is formidable.

It is hoped that the worth of such an undertaking will be appreciated and the necessary finance made available. This appears to be the only difficulty as there is now no opposition from the Dental Profession itself, and adequate teaching staff could be acquired both locally and from New Zealand.

Consistent with such a development the Division's activities could be completely decentralized with increased efficiency.

STATISTICAL REPORT 1966

	School Dental Service	Institution Service			Total
		Health Department	Prisons Department	Child Welfare Department	
Examinations	107,814	9,572	3,105	3,234	123,725
Notifications	53,365	....	....	....	53,365
New Cases	17,553	2,350	2,034	1,860	23,797
Visits (No. Cases)	72,973	11,014	5,136	6,982	96,105
Extractions	26,584	6,969	3,347	3,648	40,548
Fillings	77,927	3,066	734	4,160	85,887
Other Treatments including Prophylaxis ..	83,285	6,307	2,894	3,788	96,274
General Anaesthetics	28	125	....	....	153
Dentures	106	545	123	273	1,047
Denture Repairs .. .. .	....	320	49	42	411
Orthodontic Appliances	236	....	....	1	237

HEALTH DISTRICTS

The Metropolitan Health District

Metropolitan Medical Officer of Health: DR A. DOUGLAS, LL.B., M.B., Ch.B., D.P.H., D.T.M. & H.

Assistant Medical Officers of Health: S. M. BIEBER, M.R.C.S., L.R.C.P., D.P.H., D.I.H., D.T.M. & H.
M. L. FREEDMAN, O.B.E., M.B., Ch.B., D.P.H., D.T.M. & H.
D. G. WILSON, M.B., B.S., D.P.H.

GENERAL

The Metropolitan Medical Officer of Health is responsible for the control of communicable diseases within the district, and for the supervision, through the Chief Health Inspector, of environmental hygiene and sanitation. Liaison is maintained with the Chief Food Inspector, who is charged with the administration of the Pure Food Act and Regulations, for supervision of food handling within the District. Active co-operation with other Departments and statutory bodies facilitates the maintenance of the public health. In addition, the Metropolitan Medical Officer of Health represents the Department on various Statutory Boards and Advisory Councils.

MEDICAL STAFF

Dr A. Douglas left Australia in March to take up a National Health and Medical Research Council Travelling Fellowship in Public Health. He visited Taiwan, Japan, the United Kingdom, Norway, Sweden, Canada, and the United States, prior to returning to Sydney. Shortly after his return, Dr Douglas was appointed to the position of Director of the Bureau of Maternal and Child Health.

During the absence of Dr Douglas, Dr D. G. Wilson was appointed to act as Metropolitan Medical Officer of Health and will continue in that position until the appointment of a Metropolitan Medical Officer of Health early in 1967.

Dr M. L. Freedman has undertaken the duties of Departmental Epidemiologist. This has centralized control of communicable diseases within the Metropolitan Health District, and enabled the latest immunological information from other countries to be collated. Appropriate data on communicable diseases of current interest is forwarded regularly to country Health Districts.

Dr S. M. Bieber has fulfilled the general duties of an Assistant Medical Officer of Health, including the investigation of contacts of communicable diseases, advice to the profession and the public on various health matters, and the handling of medico-social cases. In addition, a central register of patients and contacts of Hansen's Disease has been completed, facilitating control of this condition.

COMMUNICABLE DISEASES

A close liaison has been established with the Prince Henry Hospital and the Royal Alexandra Hospital for Children. Clinical ward rounds are made at least once weekly. Similar liaison was established with a number of other hospitals and with a large number of medical practitioners in the Metropolitan Area in the field of communicable diseases. The advice of the Department in dealing with communicable diseases encountered in general hospitals and in private practice was frequently sought. This results not only in the Department becoming informed of the occurrence of these diseases at an early stage but in a greater awareness by outside practitioners and hospitals of the Department's eagerness to help in solving some of the problems encountered in this field.

Infectious Hepatitis

This disease continues to be the most notified of the communicable diseases, and the subject of the majority of inquiries made at this office. During the year 2,202 cases, with seven deaths, were notified within the Metropolitan District, compared to 1,771 cases and 11 deaths in 1965—an increase of 24 per cent.

A survey relating notifications to actual cases has indicated that only about one case in five is being notified to the Department—hence the actual incidence of the disease is much greater than notifications would suggest.

Disease is often as much a product of cultural and social background as it is of a micro-biological agent, and this is particularly so with infectious hepatitis. There is no doubt that unsatisfactory personal hygiene is the most significant factor in the spread of infectious hepatitis in this District, and that intensive health education is the method of control most likely to enjoy success.

The age group 5-9 years continues to be the most susceptible, with almost equal proportions of male and female. It is to this group, in their early school years, and to those who prepare their food, that education must be directed.

An analysis of notifications from the area of the City of Liverpool failed to show any correlation between a high incidence of hepatitis and non-sewered areas. In fact, the extensive Green Valley Housing Commission estate, housing more than 15,000 persons, and completely sewerred, provided 22 per cent of the city population and 40 per cent of notified cases. This again points to a socio-cultural factor in the spread of infectious hepatitis.

Typhoid Fever

Two cases of typhoid in the Metropolitan District were confirmed during the year. In each case the disease was contracted in an overseas country, the patients being clinically ill on arrival in Sydney by air. Follow-up studies on contacts failed to reveal any secondary cases. One patient, a 23-year-old Australian female had been immunized with T.A.B. vaccine some 18 months prior to her illness, but had not received any booster dose since that time. The other patient, a 14-year-old Italian male had no history of immunization.

Paratyphoid Fever

A fatal case of paratyphoid B infection was reported from St Vincent's Hospital, associated with a perforated duodenal ulcer and a retrocaecal abscess. The deceased was aged 77, and as she had been housekeeper/cook in Bellevue Hill and resided in Newtown, detailed investigations including stool examinations were instituted both at the patient's own home and at her place of employment. No follow-up cases were traced.

Infantile Diarrhoea

The notification of 178 cases of infantile diarrhoea, with 20 deaths, shows a marked decline from the 1965 figure of 409 cases with 19 deaths. Unfortunately all cases are not being notified, particularly mild cases, with the result that the mortality rate appears extraordinarily high.

The fatal cases were spread at random over the western and southern suburbs. In only three instances was a laboratory diagnosis available, the isolates being *Salmonella marienburg*, *S. typhimurium* and *S. nyborg*.

Several salmonella sero types, Shigella sonnei and enteropathogenic E. coli were isolated from non-fatal cases.

Diphtheria

Diphtheria in two siblings of a family of seven residing at Normanhurst were confirmed. The children were seven and eight years old and had not been immunized. The strain in each case was "intermedius". Close contacts at school and at home were excluded from school until throat swabbings had proved negative. No further detections were made but the rest of the family's immunity state was brought up to the desired level. No further cases occurred. Seven cases (one death) had been reported in 1966.

Influenza

Many cases of "influenza" were reported particularly during July and August. On the whole the disease was mild and seldom lasted more than 3-4 days. Complicating pneumonia appeared to be exceptional. Numerous isolations of A2 virus were made in the Metropolitan Area.

Many enquiries regarding the use of influenza vaccine were received. Advice given was essentially in terms of the National Health and Medical Research Council's policy and directive.

Viral Encephalitis

Forty-nine cases of viral encephalitis, including two deaths, were notified during the year. Most cases are diagnosed on clinical grounds and cytological findings, or as a complication of mumps, measles or chicken pox, and comparatively few viral studies are made. From material submitted, Departmental virologists made the following isolates.

[illegible]

Hansen's Disease (Leprosy)

Whereas this disease is of very low incidence in New South Wales, strict surveillance is kept on all cases and contacts. Liaison is maintained with the Prince Henry Hospital and the School of Public Health and Tropical Medicine.

At 31st December, 1966, five patients were in isolation at the Institute of Tropical Medicine, Prince Henry Hospital, 13 patients regularly attended the out-patients' department and 15 controlled cases remained under the surveillance of the School of Public Health and Tropical Medicine.

During 1966, 65 consultations with contacts of Hansen's Disease patients were carried out by the Department. Nasal swabbings were submitted for bacteriological examination. No evidence of the disease was discovered in any of the contacts examined.

LEAD POISONING

Periodically instances of lead poisoning in children are notified to this office. The affected children usually live in old homes in the older residential areas of the city. The paintwork of these houses is usually several layers thick, and peeling.

An unusual instance occurred in the Municipality of Botany, where five children of the same family, but living in two homes in the same street, were admitted to hospital with evidence of chronic lead poisoning. Paint scrapings taken from both houses had a high content of soluble lead.

Under the supervision of the Local Authority, one home was scraped free of old paint and repainted with lead-free material; the second home was vacated by the tenants and a closing order served on the owner by the Local Authority.

MEDICO-SOCIAL ACTIVITIES

Whereas medico-social cases are not within the province of this office, one cannot disregard appeals for help from persons in distress. Many cases call at the Department, whilst others are referred by Police, Welfare Officers and the general public. Forty-five such cases were handled by the Assistant Medical Officers of Health during the year.

Each case was dealt with on individual merits; medical aid and assessment were arranged where necessary.

SMALLPOX CONTROL

Good progress has been made with the formulation of a plan to control an outbreak of smallpox, should such an emergency arise. A survey has also been carried out to determine the immunization status of those at special risk in the community, e.g. hospital staffs, ambulance personnel and police.

EDUCATIONAL ACTIVITIES

Lectures and field excursions for post-graduate students at the School of Public Health and Tropical Medicine were arranged in conjunction with the other Divisions, the Government Analyst, the Chief Health Inspector and the Chief Food Inspector. Viva voce and practical examination of students for the Diploma of Public Health were carried out for the School.

Lectures to medical undergraduates, post-graduate nurses, medical societies and health inspector groups were arranged throughout the year.

COLOMBO PLAN FELLOW

Dr J. K. Chakravarti, Department of Public Health, Calcutta, was attached to the Department for a six-month period of training. His training course was arranged by this office and included visits to the various Divisions, the Newcastle Health District, Metropolitan Water, Sewerage, and Drainage Board, the N.S.W. Milk Board, and the Sydney City Council. This training period was requested by the Commonwealth Health Department.

Newcastle Health District

STAFF

Medical Officer of Health: H. R. DUGDALE, M.B., Ch.B., D.P.H.

Deputy Medical Officer of Health: T. J. WOOLARD, M.B., B.S., D.P.H.

One Psychiatrist, two Psychologists—one part time, one Social Worker, three Speech Therapists (one part time). One Senior School Medical Officer, two School Medical Officers, one E.N.T. Specialist (part time), six School Nurses. One Senior Food Inspector, one Food Inspector. One Senior Health Inspector, three Health Inspectors. One Assistant Nurse Inspector. Five Tuberculosis Nurses. Twenty-six Baby Health Centre Sisters. One Engineer, Clean Air Act. One Chief Clerk, three Office Assistants.

EXTENT OF THE DISTRICT

The Newcastle Health District comprises nine Municipalities of which Newcastle City is by far the largest and fourteen Shires. It extends from the Hawkesbury River in the south to the northern boundary of the Macleay Shire, where it meets the North Coast Health District. The Western and North Western Health Districts form the inland boundary.

VITAL STATISTICS—1966

Estimated Population

To 30th June, 1965	..	..	..	..	..	..	..	496,730
To 30th June, 1966	..	..	..	..	..	..	..	500,689

There were 8,863 live births in 1966 giving a rate of 17·70 per thousand.

There were 107 still births, giving a rate of 0·21 per thousand.

Deaths in 1966 numbered 5,212, giving a rate of 10·41 per thousand.

Infectious Diseases

Diphtheria—Three cases of Diphtheria were reported from Kempsey but investigation produced only one child with a positive throat swab. Immunization was carried out by local practitioners.

Infectious Hepatitis—An outbreak of Infectious Hepatitis at Toukley which appeared likely to close the school was apparently halted by the use of gamma globulin.

TABLE I—COMMUNICABLE DISEASES WITH DEATHS 1965-1966

Disease	1965		1966	
	Cases	Deaths	Cases	Deaths
Notifiable to 26-5-1966—				
Ancylostomiasis	36	1	5	....
Ascariasis .. .. .	....	....	14	....
Meningococcal Infection	4	3	1	....
Puerperal Infection	8	2	4	....
Rheumatic Fever	11	1	5	1
Scarlet Fever	26	....	21	....
Staph. Pneumonia	5	3	4	2
Staph. Disease in Infants under 4 weeks of age	182	....	139	....
Notifiable from 26-5-66—				
Brucellosis	4	....	....	....
Diphtheria	7	1	3	....
Encephalitis Viral .. .. .	....	....	6	....
Infantile Diarrhoea	64	9	29	7
Infectious hepatitis	421	1	528	2
Leptospirosis .. .. .	....	....	1	....
Tetanus .. .. .	....	....	1	1
Tuberculosis	143	11	72	4
	911	31	833	17

ENVIRONMENTAL SANITATION

A site for a sewage works at Wyong was chosen in anticipation of the extension of the new Mardi Dam water supply to the north of Town.

Joint inspection of the Merriwa Hospital septic system was made with Officers of the Public Works Department and the local authority. Through gross overloading the system had ceased to function and the overflow had found its way into the water supply.

Diversion of the laundry waste from the tank cured the trouble.

A proposal from Manning Shire that Tuncurry should join with Forster in a Sewerage Scheme led to a joint inspection of the area and a very suitable site was found in Tuncurry. The need for an ocean outfall from a works possibly subject to flooding at Forster and incapable of serving Tuncurry was avoided.

Routine Inspections and Investigations

TABLE 2

	1965	1966
Noxious Trade Premises		160
Premises (Public Health Act)		22
Water and Sewerage Samples Collected		106
Applications of Proposed Septic Tanks	2,296	2,677
Inspection of existing Septic Tanks		186
Inspections of Sanitary Depots (proposed)		8
Inspections of Sanitary Depots (existing)		216
Investigations of Complaints, Nuisances, etc.		319
Inspections of Public Amenities, Camping Grounds, Parks, Reserves, Swimming Pools		206
Investigation of Infectious Diseases		11
Private Schools		3
Government Institutions and Aboriginal Reserves		7
Unhealthy Building Land		12

Towards the end of the year a conference called by the Maritime Services Board revived interest in pollution of the Hunter River and a number of meetings were directed mainly to discussing standards which it would be desirable to achieve.

PURE FOOD

Many Local Authority officials appear to regard Food Hygiene as entirely a matter for the Department and were there sufficient Food Inspectors this would probably be no bad thing. Unfortunately the individual who fails in this duty feels quite competent to advise food traders when modernizing or building new premises and it is scarcely surprising that unfortunate mistakes occur.

A number of photographic slides has been prepared for lecturing purposes and reproduction of a series suggested as an aid to Health Education. One series to illustrate the spread of hydatid disease together with actual specimens has been used to encourage authorized slaughtering and meat inspection in one Shire. These slides have also been used with good effect in talks on Food and Food Hygiene to Nurses, Dietitians, Kitchen Personnel and to students of Newcastle Teachers College and various Service Clubs.

The absence overseas of the Senior Food Inspector for half the year accounts for the reduction in the amount of work performed.

TABLE 3

	1965	1966
Food Samples	1,106	514
Inspections	1,769	926
Notices	241	148
Complaints	94	78
Food Seized and Destroyed	3,731 lb	3,541 lb
Prosecutions	69	27
Fines and Costs	\$668	\$588

PRIVATE HOSPITALS ACT

Three new Rest Homes were established during the year, one Private Hospital became a Rest Home and alterations and additions were completed in three premises. Additions were made to four private hospitals.

TABLE 4

						1965	1966
Inspections of Private Hospitals	..	..	..	..	..	68	52
Inspections of Rest Homes	..	..	..	..	..	97	87
Inspections of Proposed Sites	..	..	..	..	..	14	4

MATERNAL AND BABY WELFARE

TABLE 5

ATTENDANCES AT BABY HEALTH CENTRES

Year				Total	Hospital Visits	Home Visits	Individual Attendances
1965	..	..	..	102,627	904	1,535	13,853
1966	..	..	..	98,308	881	1,722	12,533

ATTENDANCES AT PRE-NATAL CLINICS

1965	..	..	..	..	..	..	..	..	..	2,810
1966	..	..	..	..	..	..	..	..	..	3,264

PREMATURE BABIES AND FEEDING DIFFICULTIES

1965	..	No. notified	..	71	No. of Home Visits	..	251
1966	..	No. notified	..	52	No. of Home Visits	..	57

TABLE 6

ASSISTANT NURSE INSPECTOR

						1965	1966
Inspections of Baby Health Centres	..	..	..	..		132	122
Sites for proposed Centres	..	..	..	..	..	9	3
Interviews with Committees	..	..	..	..	..	6	5

SCHOOL MEDICAL SERVICE

The new Child Health Centre began operating on 14th November with very little interruption to services. The move from Market Street was made in several stages, largely carried out by the staff themselves and all records of the service for the greater Newcastle area are held at the Centre.

TABLE 7

Year				Schools	Full Examinations	Reviews	Parent Interviews
Departmental Scheme—							
1965	..	..	..	147	12,323	16,268	550
1966	..	..	..	136	6,962	19,795	849
Shire Scheme—							
1965	..	..	..	213	13,481	6,112	1,133
1966	..	..	..	148	6,287	7,860	450

Child Guidance Clinic

TABLE 8

Case Load	1965	1966
New cases referred	447	502
Cases from previous year	118	165
Old cases re-opened	79	69
Total case load	644	736
Cases closed	399	410
Cases attending and continuing to next year	165	186
Waiting list (new cases referred but not seen)	80	140
Results of treatment (Closed Cases only)	1965	1966
Diagnostic only: Treatment not required or not offered	194	225
Treatment offered but declined	36	33
Treatment given but results unsatisfactory	42	46
Treatment given, symptomatic improvement	109	101
Treatment satisfactory, good readjustment	18	5
	399	410

Speech Therapy Clinic

TABLE 9

	1965	1966
Number of Attendances	1,924	3,073

TUBERCULOSIS CONTROL

It has not been possible to implement plans for a new sub-clinic at Muswellbrook and investigations in the upper parts of the Hunter Valley continue to cause hardship to patients and require considerable “dead” mileage by the staff.

After a lapse of over a year another case of pulmonary tuberculosis was notified from the Australian Missionary College, Cooranbong. Staff, students, and workers were all investigated and the A.T.A. mobile unit was specially directed from a hospital survey but no other case was found. The College has now agreed to institute compulsory medical examination for all new entrants.

Mantoux testing and B.C.G. treatment where necessary was arranged for the National Service intakes at Singleton Army Camp.

TABLE 10

Attendances	1965	1966
Clinic Sessions	531	532
Total Attendances	11,640	10,872
Home Visits	3,663	3,460

South Coast Health District

Medical Officer of Health: EDGAR CHARLES MORELAND WALLACE, M.B., B.S., D.P.H.

Location: A.M.P. Building, Keira Street, Wollongong

STAFF

In addition to the Medical Officer of Health the staff comprises a Deputy Medical Officer of Health, 2 School Medical Officers, 1 Senior Pure Food Inspector, 1 Pure Food Inspector, 2 School Nurses, 1 Senior Health Inspector, 3 Health Inspectors, 4 Tuberculosis Sisters, 1 Assistant Nurse Inspector, 2 Speech Therapists, 16 Permanent Baby Health Centre Sisters, 6 Temporary Baby Health Centre Sisters, 1 Clerk, 4 Office Assistants.

VITAL STATISTICS 1966

Population.—The population of the district at 30th June, 1966 was estimated at 321,928.

Live Births.—There were 6,464 live births equal to a rate of 20·08 per 1,000 of population. Of these 3,304 were males and 3,160 females.

Deaths.—Deaths numbered 2,683, equivalent to a rate of 8·33 per 1,000 of population. Of these 1,575 were males and 1,108 females.

Infantile Mortality.—Deaths under one year of age numbered 130 equivalent to a rate of 20·11 per 1,000 live births.

Of the total number of deaths of infants under one year of age 77 or 59·23 per cent occurred within one week of birth and 90 or 69·23 per cent within the first month. The corresponding rates per 1,000 live births for the two-age groups were 11·91 and 13·92 respectively.

Stillbirths. There were 81 stillbirths representing 1·24 per cent of all births (live and still).

COMMUNICABLE DISEASES

TABLE I—NOTIFICATION OF COMMUNICABLE DISEASES AND DEATHS—SOUTH COAST HEALTH DISTRICT—1965–1966

Disease	1965		1966	
	Cases	Deaths	Cases	Deaths
Infantile Diarrhoea	43	11	10	2
Staphylococcal pneumonia	4	3	..	..
Staphylococcal infection (In infants under 4 weeks)	127	..	14	..
Scarlet Fever	13	..	68	..
Rheumatic Fever	1	..	2	..
Puerperal Infection	8	4	3	1
Meningococcal Infections	494	..	498	2
Infectious Hepatitis	1	..	4	..
Brucellosis	118	..	82	..
Tuberculosis	20	..	14	..
Syphilis	16	..	32	..
Gonorrhoea .. .. .	..	..	1	..
Hydatid Disease .. .. .	..	..	3	..
Malaria .. .. .	..	..	1	..
Ornithosis .. .. .	..	..	1	..
Tetanus .. .. .	..	..	1	..

NOTE. There were no notifications for poliomyelitis received during the year.

The notification figures for meningococcal infection, puerperal infection, rheumatic fever, scarlet fever and staphylococcal infections, represent that part of the year up to 27th May, 1966, when the introduction of amended regulations made them no longer notifiable.

The notification figures for tetanus, malaria and hydatid disease represent that period from the date of introduction of the amended regulations to the end of the year.

Comments

The number of notifications of infectious hepatitis in 1966 (498) has remained high.

A geographical breakdown of notifications of infectious hepatitis in 1965 and 1966 has shown that the new housing suburbs in the southern part of Wollongong have had the highest incidence of the disease. The suburbs worst affected were Berkeley, Unanderra, Dapto, Lake Illawarra South and Warilla.

An analysis of the infectious hepatitis notifications according to age groups shows that the highest incidence is in the 5–12 years age group followed by the 17–34 years group. There appears to be a significant drop in notifications in between these two groups.

The notifications of syphilis and gonorrhoea have remained low when compared with other Health Districts.

ENVIRONMENTAL HYGIENE

TABLE II—ROUTINE INSPECTIONS AND INVESTIGATIONS SOUTH COAST HEALTH DISTRICT—1965–1966

	1965	1966
Noxious Trades—Inspections and Reinspections	140	135
Premises (Public Health Act)	18	200
Water Samples—Drinking Water	60	73
Water Samples—Beach Pollution	..	41
Water Samples—Sullage Water	..	25
Water Samples—Sewage Works	..	7
Inspection of Fluoridation Plants	4	1
Inspection of Septic Tanks Sites	1,504	1,583
Inspection of existing Septic Tanks	150	360
Number of Septic Tank Applications Received	1,754	1,833
Inspection of Sanitary Depots (proposed)	7	7
Inspection of Sanitary Depots (existing)	150	110
Investigation of Complaints	73	94
Inspection of Public Amenities, camping grounds, parks, reserves, swimming pools	440	382
Investigation of infectious diseases	10	14
Government Institutions and Aboriginal Reserves	14	9
Inspection of Cemeteries—Proposed sites	..	1
Inspection of Sewerage Work—Proposed Sites	..	1
Investigation of Migrant Hostels	..	2
Surveys on behalf of local Government Authorities	..	2

At the request of Local Authorities, surveys of two areas were carried out. Purpose of the surveys was to advise firstly on the most practical means of draining the township of Huskisson and secondly, from an environmental health aspect, on the subdivision for housing of reclaimed land with water canal frontages at Sussex Inlet.

Following a survey of the township of Delegate the Medical Officer of Health, South Coast Health District addressed Bibbenluke Shire Council at its November meeting. As a result of this address to Council a decision was made by the council to chlorinate the township’s water supply.

Inspections of camping grounds and caravan parks were carried out throughout the District. Quite a number of such inspections were made on request from the Local Authority concerned.

Considerable investigation into various methods of disposal of sullage water was carried out during the period. The Housing Commission of N.S.W. and Local Authorities of the Shire of Shoalhaven, City of Greater Wollongong and Municipality of Shellharbour co-operated fully. Various test plots are being laid out by the Housing Commission to test the effectiveness of the various means of sullage disposal.

Beach pollution from sewerages and waste outfalls was investigated. Comparative water samples for analysis were taken along affected beaches and from the sea.

All Government Institutions in the District were re-inspected during the year. Some defects previously reported on have not been attended to.

PURE FOOD ADMINISTRATION

The number of food premises within the district has greatly increased as a result of the rapid population increase of the Wollongong area. The advantage gained by the appointment of a second food inspector in 1965 has therefore now been lost.

The poor standard of elementary hygiene observed in food premises, including cafes, in several local government areas during the year invites the question as to whether any health inspection work at all is done in these premises by local council officers.

TABLE III—PURE FOOD WORK IN SOUTH COAST HEALTH DISTRICT 1965–1966

						1965	1966
Milk Samples—							
Number of samples taken	..	..	..	..	..	221	116
Number below standard	..	..	..	..	..	12	3
Warnings issued	..	..	..	..	..	1	..
Prosecutions undertaken	..	..	..	..	..	10	4
Fines and Costs imposed	..	..	..	..	..	\$176	\$145
Food and Drug Samples—							
Number of samples taken	..	..	..	..	..	497	504
Number below standard	..	..	..	..	..	75	133
Warnings issued	..	..	..	..	..	22	24
Prosecutions undertaken	..	..	..	..	..	67	71
Fines and Costs imposed	..	..	..	..	..	\$1,754	\$2,032
Seizure of Food—							
Quantity	..	..	..	..	..	268 lb. 273 bottles 18 tins	842 lb.
Premises—							
Number of inspections	..	..	..	..	..	1,140	1,148
Number of notices	..	..	..	..	..	144	170
Prosecutions undertaken	..	..	..	..	..	5	4
Fines and Costs imposed	..	..	..	..	..	\$164	\$313
General Breaches—							
Prosecutions undertaken	..	..	..	..	..	20	27
Fines and Costs imposed	..	..	..	..	..	\$330	\$561
General—							
Complaints investigated	..	..	..	..	..	46	45
Interviews, advisings	..	..	..	..	..	139	168
Government institutions inspected	..	..	..	..	..	10	9
Total prosecutions undertaken	..	..	..	..	..	102	106
Total fines and costs	..	..	..	..	..	\$2,444	\$3,051

TUBERCULOSIS

In November, Dr K. Harris, Director of Tuberculosis, in company with the Medical Officer of Health visited these towns—Wollongong, Nowra, Bateman’s Bay, Moruya, Bega, Cooma, Canberra, Goulburn, Picton—to organize and extend chest clinic work throughout the District.

On Friday, 9th December the Minister for Health, the Honourable A. H. Jago officially opened the “Marshall Andrew Chest Block” at the Wollongong Hospital. This will provide outpatient and inpatient services. The Chest Clinic staff commenced work in these quarters on 12th December, 1966.

A compulsory Chest X-ray Survey was carried out in this District during the period October to December.

TABLE IV—SUMMARY OF WORK CARRIED OUT AT CLINICS DURING 1966

	Wollon- gong	Shoalhaven	Goulburn	Moruya	Bateman’s Bay	Bega
Total Attendances	12,328	780	801	220	14	330
Proven Pulmonary T.B.	984	70	101	13	2	27
Proven Extra-Pulmonary T.B.	46	3	4	2	2	3
Inactive T.B. (all forms)	1,032	74	197	22	2	69
Newly notified cases	46	Nil	8	..	..	2
Contacts	5,549	517	378	50	4	177
Others	4,671	120	112	32	4	52
Number of X-rays	7,053	469	668	114	10	261
Bacteriological investigations	3,284	..	131	27	4	45
Other services	615	..	232	21	5	89
Cases notified by clinic	58	..	8	..	..	2
Visits	1,932	53	18	9	6	19

MATERNAL AND CHILD HEALTH

1. Child Health

A. WORK PERFORMED IN THE GREATER WOLLONGONG, SHELLHARBOUR AND KIAMA REGION

The school population in this region was 39,000 an increase of 1,500 over the previous year.

1. *Pre-school children attending kindergartens*

A total of 172 children were medically examined at 7 kindergartens by the Deputy Medical Officer of Health and Assistant Nurse Inspector.

2. *Primary Schools*

Examinations were carried out by two teams each consisting of a medical officer and a nurse. Of the 76 schools in the region, 40 were visited. The following table shows work performed.

TABLE V.—SUMMARY OF WORK PERFORMED IN PRIMARY SCHOOLS IN THE GREATER WOLLONGONG, SHELLHARBOUR AND KIAMA REGION, 1966

Schools Visited	Full Examinations	Review Examinations	Total Number of Children Examined	Parent Interviews	Defects Notified
40	5,211	5,089	10,300	715	1,791

Types and numbers of defects notified were as follows.

TABLE VI.—CLASSIFICATION OF DEFECTS NOTIFIED IN PRIMARY SCHOOLS IN THE GREATER WOLLONGONG, SHELLHARBOUR AND KIAMA REGION, 1966

Type	Numbers
Vision	896
Squint	17
Hearing	689
Development	49
Speech	43
Psychological	15
Heart and Circulation	12
Skin	11
Orthopaedic	8
Feet	5
Asthma	1
Thyroid	1
Nervous System	1
Enuresis	440
Others	167
Total	2,325

Incomplete immunization was found in 729 children.

Approximately 1 child in every 6.6 examined had a notifiable defect. (Figure for previous year was 1 in 6).

3. *Secondary Schools*

The two nurses visited all 19 schools in the area. They carried out review examinations on 5,282 pupils of which 534 had notifiable defects.

Approximately 1 pupil in every 10 examined had a notifiable defect which was an increase on the previous year's figure of 1 in 14.

B. WORK DONE IN MUNICIPALITIES AND SHIRES

A school medical examination service was provided in 15 municipalities and shires. The work carried out is shown in table below.

TABLE VII.—WORK PERFORMED IN MUNICIPALITIES AND SHIRES—1966

Schools Visited	Full Examinations	Review Examinations	Total Number of Children Examined	Parent Interviews	Defects Notified
113	5,397	6,209	11,606	292	1,777

Types and numbers of defects notified were as follows.

TABLE VIII.—TYPES OF DEFECTS NOTIFIED

Type	Number
Vision	411
Squint	98
Hearing	164
Skin	66
Development	56
Psychological	49
Heart and circulation	43
Speech	34
Orthopaedic	24
Lungs	23
Feet	17
Thyroid	9
Asthma	9
Nervous System	8
Enuresis	229
Others	523
Total	1,777

Approximately 1 child in every 6.6 examined 4 had a notifiable defect (figure for previous year was 1 in 9).

II. Special Services

1. Atypical Children Clinic—District Office

The total number of interviews conducted was 157 of which 141 were new cases.

TABLE IX.—NUMBER OF CASES SEEN IN EACH OF SIX CATEGORIES—1966

I. Physical	.. .. .	90
II. Behaviour Disorders	}	30
Primary Psychological		
III. Behaviour Disorders	}	5
Primary Cerebral		
Sysrhythmia		
IV. Mental Retardation—		
Mild	.. .. .	1
Moderate	.. .. .	4
Severe	.. .. .	2
V. Specific Learning	}	8
Disabilities		
VI. Speech Disorders	.. .. .	1

2. Speech Therapy Clinic

TABLE X.—SPEECH THERAPY CLINIC, WOLLONGONG

	1965	1966
Total number of cases seen	118	110
New cases admitted	76	43
Number of cases discharged or transferred elsewhere	49	67
Number of follow-up cases discharged	27	43

3. *Hearing Clinic*

TABLE XI.—HEARING CLINIC, WOLLONGONG

Number of fortnightly 3-hour sessions by visiting specialist	New Cases Seen		
	Boys	Girls	Total
15	13	17	30

The Clinic was discontinued on 29th July, 1966, due to the unavailability of an E.N.T. Specialist.

III. *Maternal and Infant Care*

Two new Baby Health Centres were opened during the year.

- (1) Wreck Bay Aboriginal Settlement A.C.T. in conjunction with the Canberra Mothercraft Society.
- (2) Mittagong (Replacement Centre).

Routine inspections were carried out at 40 Baby Health Centres. The attendance at the various centres are as follows.

TABLE XII.—ATTENDANCE AT BABY HEALTH CENTRES AND VISITS TO HOSPITALS AND HOMES

No. of Centres	Total Attendance at Centres	Individual Attendances at Centres	Hospital Visits	Home Visiting Hours
1965— 54 ..	121,934	11,460	596	1,261½
1966— 55 ..	97,635	11,992	996	1,119

Baby Health Centre Staff:

Permanent, 16.

Temporary, 6.

PRIVATE HOSPITALS

No new Private Hospitals or Rest Homes were licensed during the year.

Routine inspections of private hospitals and Rest Homes—20.

Discussion and inspections of proposed homes and sites—5.

One Rest Home in the area ceased to function making the total of licensed Private Hospitals and Rest Homes 9 with 194 beds.

MEDICAL EXAMINATIONS

The total number of medical examinations made at the office for public services such as the Education Department, Maritime Services Board, Rural Bank, Housing Commission etc. are as follows:

TABLE XIII

Year	Number Examined
1965 ..	153
1966 ..	203

OCCUPATIONAL HEALTH

The sundry matters which came up during the year, such as dust nuisance, alleged fume hazard, were referred to the Director of Occupational Health or the local Field Engineer.

SOCIAL HEALTH

Mental Health

Assistance was given wherever possible with the improvement of psychiatric services in the area. This included assistance to Government, voluntary and private agencies alike. There is such a dearth of services here that every endeavour to help the mentally ill needs boosting.

Dr W. Barclay, Director of Psychiatric Services, visited the area with Dr Max Frame, Medical Superintendent, Gladesville Hospital, to confer with local hospital authorities on the extension of Gladesville Outpatient services in the Wollongong area. It was decided that there should be an outpatient Clinic at Wollongong Hospital in addition to the Clinic already existing at the Port Kembla Hospital.

Mrs Nairn, who resides in the area replaced Miss Crowe as psychiatric social worker. Mrs Nairn will work on a 4-day a week basis.

Intellectually Handicapped

The Apex Clubs were active during the year in promoting facilities for the intellectually handicapped. The Medical Officer of Health gave every assistance with information and talks to meetings. As an outcome of these activities, a local committee was formed to begin a Day School in Shellharbour Municipality.

Dr Alan Jennings visited the area to inspect local facilities and to confer with the local inter-departmental committee for the intellectually handicapped.

Old People's Welfare Committee

The Medical Officer of Health assisted in the formation of an Old People's Welfare Committee for the Wollongong area. He is represented on this Committee by Sister Y. McMaster, Assistant Nurse Inspector.

Marriage Guidance

Preliminary meetings were held to discuss the formation of a local committee.

Children in Homes—Deserted Spouses

A number of Children's Homes throughout the District were visited to assess the general level of care of the children lodged there—physical, mental, emotional. Most of the children came from broken homes.

The investigation led to an enquiry into the problem of deserted wives and deserted husbands—with children—with a view to assisting them.

Citizens Advice Bureau

Efforts were made to form a Central Enquiry and Assistance Bureau, similar to the organizations operating in the United Kingdom, Adelaide and Perth. However, the movement failed to develop because of lack of interest and support.

Home Visits

Numerous visits were made to the homes of people in difficult social circumstances by the Medical Officer of Health and Assistant Nurse Inspector with the view to helping with the difficulty and to become better informed on social health problems affecting family life. These included visits to the homes of alcoholics, prisoners and ex-prisoners, the mentally ill, disturbed children, old people, the physically handicapped, deserted wives, deserted husbands, retired people, the unemployed and many others.

HEALTH EDUCATION

No organized drive was made to extend this work as time did not permit. However, it is thought that much has been achieved by frequent personal contacts with the people throughout the District by members of staff, by talks, film screenings, and the circulation of a Health and Welfare Directory prepared for the Wollongong area.

Numerous talks were given by the Medical Officer of Health to interested bodies, such as Service Clubs, the Women Graduates, Church Groups, Infant School Clubs, Progress Associations. Subjects included child health, mental health, day nursery schools, care of the aged.

STAFF TRAINING

Dr L. King, School Medical Officer, completed a three week in-service training course at the Bexley Child Health Centre between 2nd and 20th May, 1966.

Miss Y. McMaster, Assistant Nurse Inspector completed a six week in-service training course at the Forest Lodge Child Health Centre between 14-11-66 and 30-12-66.

Mr D. Best, Health Inspector spent a week in Sydney between 18th and 22nd April studying the application and effects of fluoridation in town water supplies.

MISCELLANEOUS

Commonwealth Hostels

From time to time complaints are made to this Office about the unsatisfactory hygiene at the three Commonwealth Hostels in the area—Berkeley, Balgownie and Unanderra. Following many repeated complaints on unsatisfactory conditions at Berkeley, especially complaints about the food, a detailed inspection was made with the assistance of Miss Stern, Senior Dietitian, Head Office. Some of the complaints were justified. Dr L. Wienholt (Commonwealth Health Department and medical adviser to Commonwealth Hostels) was kept informed of the complaints and the findings. Investigations were also made into suspected outbreaks of intestinal infection and infectious hepatitis at the Balgownie and Berkeley Hostels.

Diabetic Survey Goulburn

As time permitted, assistance was given with a diabetic survey in Goulburn conducted by a local committee of citizens, headed by Dr David Wallace who undertook the work under the auspices of the National Health and Medical Research Council.

Civil Defence

The Deputy Medical Officer of Health was closely associated with the progress and development of civil defence in the Wollongong Zone, of which he is Medical Director.

Health and Welfare Directory

Approximately 850 copies of a Health and Welfare Directory for the Wollongong area, compiled by this Office, were distributed to the contributors, various government Departments, hospitals, welfare agencies, social workers, general practitioners, solicitors and numerous others. Many letters of appreciation and requests for additional copies have been received.

Visitors

Visitors were numerous during the year, as a result of the increasing activities of and interest in this Office. They included visitors from Head Office, the Divisions, other Government Departments, voluntary organizations, members of the general public. Among them were Dr E. S. A. Meyers, Mr H. Evans, Mr K. Bagnall, Dr K. Harris, Dr N. Solomons, Dr W. Hemphill, Mrs A. Shreeve and Dr Chakravarti (Medical Officer of Health, Calcutta).

Western Health District

STAFF

Medical Officer of Health: DR T. F. RENNIE, M.B., CH.B., D.P.H.

Deputy Medical Officer of Health: DR H. B. GIBSON, M.B., B.S., D.T.M. & H., D.P.H.

One School Medical Officer; One School Nurse; One Senior Food Inspector; One Food Inspector; One Senior Health Inspector; Two Health Inspectors; One Assistant Nurse Inspector; One Clerk—Grade I; One Public Health Nurse; Three Tuberculosis Sisters; Sixteen Baby Health Centre Sisters; Four part-time Baby Health Centre Sisters; One Shorthand-typiste; One Office Assistant.

DECENTRALIZATION

There has been no further decentralization of administration during the year.

VITAL STATISTICS

Population.—The population of the District at 30th June, 1966, was 273,164 (preliminary census figures).

Live Births.—There were 5,629 live births equivalent to a rate of 20·61 per 1,000 of population. Of these 2,998 were males and 2,631 females.

Deaths.—Deaths numbered 2,620 equivalent to a rate of 9·59 per 1,000 of population. Of these 1,558 were males and 1,062 females.

Infantile Mortality.—Deaths under one year of age numbered 139 equivalent to a rate of 24·69 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 76 or 54·68 per cent occurred within one week of birth and 87 or 62·59 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 13·50 and, 15·45 respectively.

Still births.—There were 79 still births, equal to a rate of 0·29 per 1,000 of population and representing 1·38 per cent of all births (live and still).

TABLE 1. ENVIFONMENTAL HYGIENE INSPECTIONS, 1965-1966

Inspections Carried out	1965	1966
Government Institutions (psychiatric hospitals, prisons, child welfare home, teachers college)	8	9
Aborigine Reserves	20	25
Sanitary and garbage depots	163	110
Various premises (schools, hotels, hospitals, dwellings, theatres and public halls)	12	220
Noxious Trade premises	134	167
Camping reserves	20	24
Septic tank sites, existing and proposed	928	732
Sewage treatment works	26	13
Swimming pools and testing samples	33	35
Complaints and nuisances	53	67
Water supplies	19	24
Septic tank applications dealt with	928	1,097
Noxious trade premises recommended for licensing	90	93
Water samples collected	16	18
Attendances at Court	4	3
Miscellaneous inspections and surveys	105	184

ENVIRONMENTAL HYGIENE

The routine inspections of Government Institutions (prisons, psychiatric hospital) and aborigine reserves has revealed that considerable improvement was made in a number of instances. At Brewarrina thirty new dwellings were constructed and vacated substandard dwellings were demolished. There still remains an urgent need for aborigine housing.

Sanitation standards at Noxious Trades premises continue to improve with the co-operation of local authorities. There has been a decline in the number of licensed premises, pig keepers and fat extractors, due to the introduction of Central Abattoirs, although this will be offset this year when the Noxious Trades Act is extended to the whole of the State. The need for sanitation control at kangaroo knackery premises resulted in these premises being licensed.

The augmentation of the Orange and Forbes Sewage Treatment Works has resulted in improved sewerage facilities for these towns. New sewage treatment works has been provided at Gilgandra and Blayney. Sites have been selected for sewage treatment works at six other towns. Chlorination plant was installed at the Portland Works on the advice of this office.

A modern garbage incinerator is almost completed at Blaxland and will serve the lower Blue Mountains area.

An increase in school inspections has indicated the need for improved sanitation facilities at a large number of schools. Maintenance at these schools is apparently lagging because of lack of funds. Improvements are being made at some schools with the installation of modern closet buildings served by septic tanks.

COMMUNICABLE DISEASES

TABLE 2.—NOTIFIED COMMUNICABLE DISEASES AND DEATHS, 1965-1966

Disease	1965		1966	
	Cases	Deaths	Cases	Deaths
Brucellosis	1	..	2	..
Hepatitis (Infectious)	250	1	315	..
Infantile Diarrhoea	94	14	80	7
Meningococcal Meningitis	7	1	3	2
Puerperal Infection	7	..	..	..
Rheumatic Fever	10	2	5	1
Scarlet Fever	73	..	57	..
Tuberculosis	60	..	52	..
Virus Encephalitis	41	5	17	3
Staphylococcal Pneumonia	5	5	2	1
Diseases in infants under 4/52 of age	65	..	13	..
Poliomyelitis	1	..	..	..
Ascariasis	1	..	1	..
Ophthalmia (Gonorrhoeal)	1	..	..	..
Gonorrhoea	85	..	52	..
Syphilis	81	..	22	..
Hydatid Disease .. .. .	..	..	1	..
Leptospirosis .. .. .	..	..	1	..
Tetanus .. .. .	..	..	1	..
Typhoid Fever .. .. .	..	..	1	..
Total	782	28	625	14

Infectious Hepatitis

The rise in the number of cases of infectious hepatitis notified reflects the general rise in the State as a whole. Ninety of these cases occurred in the City of Orange. This represents an incidence of approximately 1:200 of town's population.

Typhoid Fever

On 11th August, 1966, a boy who had been admitted to Prince Henry Hospital, Sydney, from Gilgandra for investigation of an undiagnosed fever was notified to the Health Department as having typhoid fever. Investigations revealed that the boy's grandmother had been the cause of an outbreak of typhoid in Gilgandra in 1950. Stool cultures revealed that the grandmother was the carrier.

A juvenile aunt of the boy was in Gilgandra District Hospital with an undiagnosed fever and was sent to Prince Henry Hospital. She was subsequently found to have typhoid fever. This case was probably notified through the Metropolitan Medical Officer of Health. All three were excreting salmonella typhi phage type F.1.

Both children made uneventful recoveries. The carrier was treated with a months course of ampicillin which ceased on 20th September, 1966. Stool specimens were negative from 30th August, 1966.

Both patients and the carrier are still being followed up.

Venereal Disease

There has been a considerable drop in the number of cases of syphilis notified. The reason for this is not known. During 1966 considerable numbers of itinerant workers left the Western Health District to work in the cotton growing districts in the North Western Health District. This may in part account for the drop in the number of cases notified.

Gastro-Enteritis, Wellington

The outbreak which started in December, 1965, continued until the end of January, 1966. There was a total of 58 cases, mainly aborigine children from the Nanima Aboriginal Reserve and other aborigine families on the town Common and squatters along the river banks. A number of white families were involved and in most cases the standards of hygiene and sanitation were low. The Institute of Clinical Pathology at Lidcombe isolated Echo 1 virus from the stool of three cases and it is probable that this virus was the cause of the outbreak.

SCHOOL MEDICAL SERVICE

TABLE 3.—SCHOOL MEDICAL EXAMINATIONS, 1965-1966

	Departmental		Shires	
	1965	1966	1965	1966
Full examination	1,732	6,977	4,323
Review	604	4,334	3,088
Total children examined	2,336	11,311	8,411
Parent interview	6	148	212

School Medical Service

Twenty-four local authorities have taken part in the School Medical Service under the Shire Scheme.

The appointment of a School Medical Officer to this District in October, 1965, allowed of a full years examination of all school children in the Cities of Dubbo and Orange, and in the Shires of Canobolas, Molong, Talbragar and Wellington.

A full time School Nurse was appointed to this District on 12th December, 1966.

Child Health

The Special Services Section of the Bureau of Maternal and Child Health arranged for two teams, each comprising of a medical officer, a psychologist, a social worker and a speech therapist to visit the district for a week beginning 19th September. One team worked at Dubbo and the other at Forbes, and each saw about 40 children from surrounding areas. It is proposed that the teams will again visit the same areas next year as there are still a large number of children for assessment.

PURE FOOD ADMINISTRATION

TABLE 4.—PURE FOOD INSPECTIONS, SEIZURES, PROSECUTIONS AND FINES, 1965-1966

Category of work carried out	1965	1966
No. of milk samples taken for analysis	436	350
No. of samples below standard	65	79
No. of warnings issued	12	55
No. of prosecutions	57	29
Amount of fines and costs	\$1,051.90	\$524
Food and Drugs (other than milk)—		
No. of samples taken for analysis	343	455
No. of samples below standard	22	57
No. of warnings	7	7
No. of prosecutions	24	44
Amount of fines and costs	\$376	\$1,088
Seizures—		
Quantity of food and drugs unfit for human consumption seized and destroyed	460 lb	2,015 lb
Premises—		
No. of inspections of premises (food and drug)	1,996	1,770
No. of notices issued	228	204
No. of prosecutions for unclean premises	7	10
Amount of fines and costs	\$381.30	\$227
General breaches of the Act and Regulations—		
No. of prosecutions	51	70
Amount of fines and costs	\$582.50	\$1,343 plus bond
Other matters—		
Liquor examined (bottles)	1,013	1,749
Meat examined	1,023	1,187
Inspections of Departmental Hospitals	3	2
Inspections of Child Welfare Home, Prison, Bathurst Teachers College .. .. .	..	6
Any other work undertaken—complaints and enquiries	684	788
Shows, races etc	4	9
Prosecutions recommended	109	118

Milk

Following a campaign in the Western Health District to raise standards of milk handling in 1965 standards can now be said to be satisfactory. This is reflected in the decreased number of prosecutions.

Shows and Race Meetings

Food handling at Country Shows and Race Meetings can now be said to be satisfactory. This has been achieved by the education of the organizing committees and voluntary bodies handling food.

It was found necessary to prosecute professional stall-holders only.

Alleged Cancer Cure

On 23rd November, 1966, a complaint was received from a citizen of Mudjee that a man had visited her home and offered to cure her husband of cancer. Her husband had inoperable bronchial carcinoma. The cure was to be effected by a bottle of pink coloured medicine which the man offered to sell to her husband.

The Medical Officer of Health and the Senior Food Inspector carried out an investigation. Statements were taken from the people concerned and all relevant papers submitted to Crown Law Department.

Analysis of the contents of the bottle indicated that the liquid was diluted Dettol with colouring and flavouring matter added.

(NOTE: On 9th February, 1967, at Mudjee Court a man was fined \$70 with \$35 professional costs and \$2 Court costs for an offence under Sec. 41A Medical Practitioners Act).

TABLE 5.—TUBERCULOSIS CONTROL WORK, 1965-1966

	1965	1966
1. Attendances—		
Proven Pul. T.B.	374	412
Proven Extra Pul. T.B.	9	2
Inactive T.B. (all forms)	1,012	981
Newly notified T.B. cases	34	20
Contacts	2,511	1,871
Others	725	1,373
Total attendances	4,665	4,659
2. Number of x-rays during year—		
(a) Tuberculosis	1,447	1,620
(b) Non-tuberculosis	1,488	1,364
3. Total number of bact. investigations	556	524
4. Other services	304	323
5. Number of cases notified by Clinic	24	20
6. Visits	1,807	3,178

Chest X-Ray Surveys

Mobile x-ray surveys were conducted in the City of Blue Mountains, Municipality of Nyngan, and the Shires of Brewarrina, Bogan, Cobar, Gilgandra, Nyngan, Walgett and Warren. Total numbers x-rayed being 36,211, leading to discovery of 14 active cases and 215 inactive cases.

MATERNAL AND BABY WELFARE

TABLE 6.—ATTENDANCES AT BABY HEALTH CENTRES, HOSPITAL AND HOME VISITS, 1965-1966

Category	1965	1966
Attendances at Centres	72,416	69,489
Hospital Visits	1,128	1,132
Home Visits	885	785

Routine urine testing of babies has continued throughout the year and no cases of phenylketonuria were found. A number of cases of minor abnormalities have been re-tested.

The Assistant Nurse Inspector attended a two months in-service training course in Sydney during October and November.

The usual annual conference of Baby Health Centre Sisters was held in Bathurst in January, and was attended also by the Public Health Nurse and Sisters from the Far West Scheme.

Throughout the year Sisters have been instructed in the benefits of home visiting and where possible extra time has been given to this purpose.

PRIVATE HOSPITALS AND REST HOMES

TABLE 7.—INSPECTIONS UNDER PRIVATE HOSPITALS ACT

Inspections				1965	1966
Private Hospitals	..	..	..	22	26
Rest Homes	..	..	..	17	34

Statistics for Private Hospitals and Rest Homes

					Numbers	Beds	Cots
Private Hospitals	..	..	..	..	16	207	115
Rest Homes	..	..	..	..	15	481	..
Total	..	..	..	..	31	688	115

Three new Rest Homes were opened during the year.

The standard of Private Hospitals and Rest Homes is gradually being improved and all new hospitals and homes, or those changing ownership, have been made to comply fully with the requirements of the Act.

MISCELLANEOUS

TABLE 8.—MEDICAL EXAMINATIONS

Type of Examination							1965	1966
Permanent appointment	..	..	..	..	..	..	21	31
Teachers—casual	..	..	..	..	..	..	2	7
Ex-servicemen	..	..	..	..	..	..	4	1
Fitness for duty	..	..	..	..	..	..	5	..
Special cases	..	..	..	..	..	..	1	1

TABLE 9.—TRAVELLING MILEAGE

						1965	1966
Departmental vehicles (2)	..	..	..	..	..	31,119	25,911
Officers private cars (11)	..	..	..	..	..	47,681	52,688
Total	..	..	..	..	..	78,800	78,599

The rise in mileage by private cars is accounted for by the appointment of three additional Officers during the year, a School Medical Officer, School Nurse and a Public Health Nurse.

TABLE 10.—PUBLIC HEALTH NURSE, WALGETT

From June, 1966 to December, 1966

Maternal and Infant Care							From June, 1966
Number of attendances at Centre	..	..	..	..	..	..	363
Visits to Hospital	..	..	..	..	..	..	29
Visits to new babies at home	..	..	..	..	..	..	16

On 3rd February, 1966, a Public Health Nurse, Sister Waller, took up duties at Walgett. Sister Waller had completed an in service training course in Public Health Nursing.

Prior to the arrival of the Public Health Nurse a considerable amount of education of the local community, especially of the Local Authority, was carried out. This was aimed at informing the local citizens of the role of a Public Health Nurse.

The appointment of a Public Health Nurse was the first of its kind in New South Wales. The object of the appointment was to find out how a Public Health Nurse would fare in tackling the numerous and complex health problems in a Western town where physical health standards were low.

A fair assessment of work carried out is not possible over the first year's work as many months were spent by the Public Health Nurse in becoming accepted in the community and organizing the various activities she now undertakes.

A summary of the work undertaken by the Public Health Nurse is as follows.

Public relations. This was the first task of the Public Health Nurse. She had to become accepted and understood by the community. This has meant a considerable amount of time spent in visiting and contacting key people and groups in the community and, if necessary, joining in the activities of many organizations.

Hospital visiting. The hospital is visited once a week and problems discussed with the doctor. Particular attention is paid to the Children's and Maternity Wards.

School health. The Public Health Nurse assists in the running of the Shires Scheme school examinations at the local schools. She also visits schools independently to carry out hygiene inspections and to give health education talks.

Child Health. A Health Centre Clinic was established on 28th March, 1966, and at present operates one half a day per week. As a matter of policy it was decided that the clinic should be available to both Aborigine and white mothers. At first Aborigine mothers were reluctant to attend at the same time as white mothers, but are now slowly beginning to accept the clinic.

Concern is expressed by the Public Health Nurse at the poor immunization state of Aborigine children, but she has so far been unable to persuade the local authority to take action.

Ante and post natal care. A weekly clinic is run in co-operation with the local doctor mainly for Aborigine mothers with the occasional non-Aborigine. Routine ante and post natal examinations are carried out. Blood samples are examined by the Red Cross Blood Bank, Sydney.

Aborigine Health and Welfare. This is probably the most important work of the Public Health Nurse. There are nearly 1,000 Aborigine or part Aborigine people in or near Walgett. Their social status is low and their personal and environmental health standards are correspondingly low.

All families, where necessary, are visited regularly. Regular visits are also paid to the Mission Station and School.

Tuberculosis. Under the direction of the Chest Clinic at Dubbo patients are visited, sputums sent away, x-rays arranged and any other work as requested.

Geriatrics. The Rotary Old Men's Home is visited regularly.

A Meals on Wheels Service has commenced in Walgett mainly for the benefit of old people. This organization has come into being almost entirely at the instigation of the Public Health Nurse.

Mental Health. A few patients have been visited and followed up on behalf of Bloomfield Hospital, Orange.

Assessment for one child at Grosvenor House was arranged.

Two children have been placed on the waiting list for Westhaven School, Dubbo.

Conclusions. As a matter of policy the number of hours the Public Health Nurse spends in her clinic is kept to a minimum and the number of hours spent working in the community is kept to a maximum. This is an attempt to break with clinic orientation.

Negotiations have been going on for some time to build a Health Centre at Walgett. This has not yet been erected.

Even at this early stage it is possible to say that a trained nursing sister is capable of carrying out competently a wide range of activities previously claimed to be within the competence only of specialist nurses. Although this has been done in a remote country town there is no practical reason why the same sort of thing could not be done in a Metropolitan situation.

INTERDEPARTMENTAL COMMITTEE ON MENTAL RETARDATION

An Interdepartmental Committee on Mental Retardation has been formed at Bathurst to cover the Western Area of the Education Department which is broadly similar in area to the Western Health District.

The committee consists of:

The Area Director of Education—Western Area—Chairman.

The Medical Officer of Health, Western Health District.

The Child Welfare Officer, Bathurst.

The Area Guidance Officer—Western Area.

An inaugural meeting was held in December.

North Coast Health District

STAFF

Medical Officer of Health: Dr I. K. HAY, M.B., Ch.B., D.P.H., D.T.M. & H.

Deputy Medical Officer of Health: Dr J. R. WHITFIELD, M.B., B.S., D.P.H.

Two Medical Officers (Child Health); two School Nurses; two Tuberculosis Nurses; one Senior Health Inspector; two Health Inspectors; one Senior Food Inspector; one Food Inspector; one Assistant Nurse Inspector; eight Baby Health Centre Sisters; one Speech Therapist; one Clerk; one Shorthand Writer/Typiste; one Office Assistant.

DISTRICT

The North Coast Health District comprises the following local authority areas:

Municipalities. Ballina, Casino, City of Grafton, City of Lismore, Mullumbimby.

Shires. Bellingen, Byron, Coffs Harbour, Copmanhurst, Gundurimba, Kyogle, Maclean, Nambucca, Nymboida, Terania, Tintenbar, Tomki, Tweed, Ulmarra, Woodburn.

VITAL STATISTICS, 1966

Population.—The population of the district at 30th June, 1966, was 154,535 (preliminary census figures).

Live births.—There were 2,649 live births in the district, equivalent to a rate of 17·14 per 1,000 of population. Of these 1,341 were males and 1,308 females.

Deaths.—Deaths numbered 1,367 equivalent to a rate of 8·85 per 1,000 of population. Of these 813 were males and 554 females.

Infantile Mortality.—Deaths under one year of age numbered 38, equivalent to a rate of 14·35 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 34 or 63·16 per cent occurred within one week of birth, and 35 or 65·79 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 9·06 and 9·44 respectively.

Stillbirths.—There were 00 stillbirths in the district, equal to a rate of 00·00 per 1,000 of the population and representing 00·00 per cent of all births (live and still).

ENVIRONMENTAL HYGIENE

The volume of work in respect of routine duties was approximately equal to that carried out during 1965.

In addition to routine work the Health Inspectorate co-operated with branches of the Department, with other government departments, and with local authorities. Joint inspections were carried out with officers of the Department of Public Works in relation to the selection of sites for proposed sewage treatment works, existing sewage treatment works, septic tanks and water supplies for schools, and public water supply projects. Liaison with officers of other departments and local authorities was generally very good. Architects; engineers; building contractors; manufacturing company representatives; building tradesmen; motel, caravan park, and company area managers; swimming pool operators; and subdividers were interviewed at this office and in the field and advised on various matters concerning the health aspects of their respective callings. Lectures were given to local authority swimming pool operators and operators of semi-public swimming pools at motels, hotels, caravan parks, and camping areas. Nurses attending the Regional Training School in Lismore were given lectures on environmental sanitation, and taken on field inspections of local sewage treatment works.

Local authorities were advised on proposed and existing water supplies, sewage treatment works, effluent disposal, subdivisions, swimming pools, and on other aspects of environmental sanitation. Advice was given to the public on such topics as pest control, private water supplies, dairy and piggery hygiene, poultry keeping, sullage disposal, and swimming pool care and maintenance. Sanitary surveys were carried out in the Shires of Nymboida and Ulmarra.

TABLE 1.—INSPECTIONS AND WORK CARRIED OUT IN 1966, WITH COMPARATIVE FIGURES FOR 1965

Work carried out	1965	1966
Septic tanks (proposed and existing)	1,010	952
Noxious trades	173	125
Sanitary depots	51	190
Business premises	60	1
Water supplies and samples	157	366
Sewage treatment works (proposed and existing)	40	33
Camping reserves	14	11
Aboriginal reserves	5	2
Scavenging districts	3	2
Food premises, Factories and Shops	57	24
Complaints	24	28
Other inspections	119	367
Total	1,713	2,101

INSTALLATION OF SEPTIC TANKS

The slight decrease in the number of applications to install septic tanks is attributed to financial restrictions following the drought. This septic tank recession is surely only temporary, as there are many new sub-divisions being developed where reticulated sewerage is not available but where the soil is suitable for the disposal of septic tank effluent. Some of these sub-divisions are outside local authority scavenging districts and it was noted that septic tanks had been installed where there was only a restricted area of the site available for the disposal of both effluent and sullage, sometimes with poor absorbent qualities. Local authority Health Inspectors expressed concern over the limited powers in Ordinance 44, Local Government Act, 1919, under which they were expected to control the installation of septic tanks in areas outside scavenging districts.

Tweed Shire initiated a scheme for the installation of septic tanks on all premises within the Shire, and Maclean Shire Council was investigating the possibility of inaugurating a similar scheme.

Inspections of existing installations were carried out and where defects were found owners were, on the whole, co-operative in rectifying these defects.

WATER SUPPLIES

Restrictions in the use of water because of drought, aggravated in some parts by accelerated community growth and the seasonal influx of tourists, were imposed in several areas for varying periods during the year. At Casino the height of the town weir was raised to increase storage. At Ballina the water situation once again became critical as tourism increased the Christmas holiday population from 4,000 to 20,000 consumers. To supplement the supply water was pumped from an adjacent authority's supply. Construction was well under way at the end of the year for the provision of a new, and adequate, supply from Emigrant Creek to serve the Municipality of Ballina, and several near-by villages. This supply will be in operation early in 1967.

The construction of the dam, weir, and reservoirs, and the laying of the reticulation mains at Woolgoolga, Coffs Harbour Shire were almost completed in December. The Shire of Coffs Harbour had difficulty in maintaining the town supply to Coffs Harbour and Sawtell, and began investigations into ways and means of overcoming this perennial problem. Rous County Council, which supplies 30,000 consumers in the Richmond Valley extended its supply to South Gundurimba, consequent upon the financial support of the owner of a local abattoir whose supply was inadequate. The Council has once again deferred action in respect of water treatment of the Rocky Creek supply as recommended throughout the years by this Department. The reason given was their inability to obtain financial assistance from government: it would now appear unlikely that the 30,000 rate-payers to the Rous County Council will, in the foreseeable future, receive water which is fit for human consumption. A large number of water samples were collected and despatched by Departmental Officers from many water supply sources, public and semi-public, existing and proposed. Several privately owned caravan parks and camping areas were found to have water supplies unfit for drinking and domestic purposes.

SEWAGE TREATMENT

Inspections of existing sewage treatment works were carried out at Lismore, Casino, Grafton, Coffs Harbour, Bellingen, Evans Head, Kyogle, Mullumbimby, and Murwillumbah. Sites of proposed treatment works were also inspected with officers of the Department of Public Works and local authority officers, at Bowraville, Bonalbo, and Woodenbong. During the year the new treatment works at Bellingen came into operation. Periodic inspections were made of the Tweed Heads sewage treatment works and sewerage project currently under construction. This plant is expected to be in operation by March, 1967. Lismore City Council and Casino Municipal Council submitted plans to use sewage works effluent for irrigation of crops and land for grazing of cattle. These authorities were advised and discussions and investigations continued without finality throughout the year.

LAND SUB-DIVISIONS

Advice was given by Departmental officers on sewage and sullage disposal problems associated with two major development problems at East Ballina and at Scott's Head, Nambucca Shire, and on several other smaller projects. The question of pollution of a popular swimming area, Shaws Bay, at Ballina, and an underground water supply at Scott's Head was involved and the authorities concerned were advised appropriately.

DISPOSAL OF ABATTOIR WASTES

There was a general improvement in the methods of waste disposal at the Grafton and Casino meatworks, and improvements were foreshadowed at the Midco Meatworks at Macksville.

NOXIOUS TRADES

Some improvement was effected in the standards of Noxious Trades premises by frequent visits by local authority and departmental health officers. Since 1964 thirteen of these traders have gone out of business.

SWIMMING POOLS

The regular and systematic inspection and supervision of all public and semi-public swimming pools in the District was inaugurated and maintained during the latter half of the year. In August and September two-day courses in the operation and maintenance of swimming pools, were held in Casino and Grafton. These courses were designed for the managers and operators of public pools under the control of local authorities. Short one-day courses were also held at Ballina and Coffs Harbour for operators of semi-public pools at motels and camping and caravan parks, and for private pool owners. Lecturers were the Medical Officer of Health, the Senior Health Inspector, and the two Health Inspectors. These very successful and well-attended courses, and the regular supervision of pools have resulted in a great improvement in pool water standards throughout the District.

HEALTH INSPECTORS' CONFERENCE

The Annual Conference of Council and Departmental Health Officers was held at Nambucca Heads on 24th and 25th March. Guest speakers were Mr J. T. Lamont, Head Teacher, Special Duties, Sydney Technical College, who addressed the conference on Defects in Building Construction; and Mr S. C. Derwent, Director, The Institute of Administration in the University of New South Wales whose talk was entitled Personality Development and Personal Efficiency.

COMMUNICABLE DISEASES

TABLE 2.—NOTIFIED COMMUNICABLE DISEASES AND DEATHS, 1965-66, EXCLUDING VENEREAL DISEASES

Disease	1965		1966	
	Cases	Deaths	Cases	Deaths
Ancylostomiasis	16	....	2	....
Ascariasis	16	....	3	....
Brucellosis	2	....	1	....
Diphtheria	1	....	....	....
Infectious Hepatitis	36	....	265	2
Infantile Diarrhoea	12	3	12	2
Leptospirosis	10	....	1	....
Meningococcal Infection	2	1	2	1
Puerperal Infection	3	....	....	....
Q Fever .. .. .	....	....	5	....
Rheumatic Fever	4	....	11	1
Scarlet Fever	23	....	5	....
Staphylococcal Infections	98	....	....	....
Tetanus .. .. .	....	....	1	....
Tuberculosis	26	....	11	....
Typhus Fever .. .. .	....	....	1	....

The amendments to the Schedule of notifiable communicable diseases under the Public Health Act in May, 1966, affected the 1966 figures in the second half of the year rendering comparisons with the figures for the previous year invalid in respect of the diseases affected by the amendments.

Infectious Hepatitis

The figure of 265 notifications represented a 600 per cent increase from the previous year, compared with a 22 per cent increase for the whole of New South Wales. No attempt is made to attach any significance to this difference, but there can be little doubt that as it became obvious that an epidemic existed the notification rate increased. Cases notified were distributed fairly evenly throughout the district, with the highest incidence in Bellingen Shire (3·5 cases per 1,000), Kyogle Shire (2·8 cases per 1,000), Tomki Shire (2·5 cases per 1,000), and the Municipality of Casino (2·4 cases per 1,000). The overall rate for the Health District was 1·7 cases per 1,000 population. Because of varying standards of notification liable to influence a comparatively small number of cases one hesitates to attach any significance to these variations. Bellingen Shire was the site of a sharp local rural outbreak of classical pattern three years ago, and the Shires of Kyogle and Tomki together with the Municipality of Casino may be taken as one single epidemiological area. Both areas are fairly closely populated farming communities with a static, possibly relatively susceptible and antigenically inexperienced population, compared with the coastal tourist areas. Notifications increased throughout the year, with a sharp rise in May, a fall in July, and a steady increase from August to October, the number of notifications declining slightly during November and December. As the epidemic progressed the proportion of cases notified in the school-age population (5-15 years) increased: when the epidemic was at its peak in October and November over half the cases notified were under 15 years of age compared with less than one-third in the earlier months of the year. The schools, no doubt, played an important part in the transmission of infection. Some 54 per cent of all cases were under 20 years of age. A total of 158 male and 107 female cases was notified, and there were 2 deaths, a boy of 8 years and a woman of 67 years: this represented a Case Mortality Rate of 0·75 per cent.

Rheumatic Fever

A small outbreak of Rheumatic Fever, of which six cases between the ages of 6 and 10 years, were officially notified occurred in Tintenbar Shire, causing some local alarm. Investigations revealed that there were a considerable number of cases of Impetigo in one of the local primary schools. The last case was notified on 24th February and no other case was notified from that area during the year.

Q Fever

Five cases of Q Fever were notified. All the cases were employed at a meatworks at Casino.

Venereal Diseases

TABLE 3.—NOTIFICATION OF VENEREAL DISEASE, ACCORDING TO AGE AND SEX, 1966

Age	Gonorrhoea			Syphilis		
	Male	Female	Total	Male	Female	Total
15-19 years	7	2	9	1	2	3
20 years and over	30	4	34	3	2	5
All ages	37	6	43	4	4	8

Forty-three cases of gonorrhoea and eight cases of syphilis were notified during the year by medical practitioners. There were no notifications from any of the hospitals. There were no defaulters and no refusals by suspected sources of infection to attend for investigation. In 50 per cent of the cases notified however the source of infection was not given or could not be located because of insufficient information.

Welfare Officers of the Aborigines' Welfare Board have co-operated in the control of venereal disease amongst the aborigines. These sisters have shown a keen interest in the problem and have been able to follow up known cases and to persuade suspected cases to attend for investigation. Without their assistance effective control of these diseases in the aboriginal population would be almost impossible.

MATERNAL AND INFANT CARE

Baby Health Centres

The new (replacement) Baby Health Centre at Coffs Harbour was opened by the Hon. W. R. Weiley, M.L.A., Member for Clarence, in February, on behalf of the Minister for Health, who was unable to attend.

Staff

There were several staff changes during the year. Following a period of in-service training in Sydney and Lismore the new Assistant Nurse Inspector, who was previously Sister-in-Charge, Lismore Baby Health Centre, assumed duty. In accordance with Departmental policy three permanent appointments of nurses were made locally to staff the Lismore, South Lismore, and Nambucca Heads circuits.

A panel of "recreation leave relieving sisters" was established and it was possible to staff all centres during these periods from local sources, without calling on Sydney for help.

TABLE 4.—ATTENDANCES AND HOME VISITS, BABY HEALTH CENTRES, 1964-1965-1966

Year	Individual attendances	Home visits (in hours)
1964	4,372	736
1965	4,540	627
1966	3,990	741

Home Visiting

Study of the Sisters' home visiting reports show that the majority of home visits were routine visits to new-born babies at hospital and follow-up visits to mothers who do not attend the Baby Health Centre.

Sisters were encouraged to do as much home visiting as possible and a few are enthusiastic about the work. Lack of time on busy circuits and lack of transport however are two factors which prevent the amount of home visiting from increasing.

CHILD HEALTH

Pre-school Clinics

Three new pre-school clinics were opened in February, 1966, at Ballina, Mullumbimby, and Woodburn. These fortnightly clinics, particularly in the second half of the year were not very well attended, and will be held at less frequent intervals in the future. The main clinics at Lismore, Grafton, Murwillumbah, Casino and Coffs Harbour continued successfully.

TABLE 5.—PRE-SCHOOL CLINICS, 1965 AND 1966

Place	No. Clinics held		No. children seen	
	1965	1966	1965	1966
Lismore	44	43	399	239
Casino	20	22	184	165
Murwillumbah	15	20	138	157
Ballina .. .. .	....	17	....	125
Mullumbimby .. .. .	....	18	....	68
Woodburn .. .. .	....	16	....	35
Grafton	51	37	377	251
Coffs Harbour	18	20	171	196
Total	148	193	1,269	1,236

Routine School Medical Examinations

For the first time for some years these examinations continued throughout the year without interruptions due to staff problems, and this continuity is reflected in the greater volume of work performed.

TABLE 6.—ROUTINE SCHOOL MEDICAL EXAMINATIONS, 1966

Data	Central Area	Southern Area	Northern Area	Total (All areas)
Schools examined	88	78	51	217
Enrolment	14,859	15,472	4,548	34,879
Full examinations	1,855	2,512	789	5,156
Review examinations	4,429	5,339	2,146	11,914
Total examinations	6,284	7,851	2,935	17,070
Defects notified	718	995	494	2,207
Defects notified as per cent of No. examined ..	11.26	12.67	16.83	12.92

Atypical Children

During the year the School Medical Officer in Lismore investigated 123 atypical children. In September two diagnostic teams from the Bureau of Maternal and Child Health visited the District for five days to interview atypical children and their parents and to evaluate problems and counsel accordingly. One team consisting of Medical Officer, Psychologist, Speech Therapist, and Social Worker visited Lismore and dealt with over forty problems. The other team, which was without a Social Worker operated in Grafton and saw over thirty children. Case consultations were held between members of the team, school counsellors, and the local School Medical Officer and Nurse on the last afternoon of the visit. There is no doubt that these teams should visit bi-annually until such time as permanent Child Health Centres are established in the District, at both Lismore and Grafton.

Intellectually Handicapped Children

In accordance with government policy for the care of the intellectually handicapped, and following discussions with the Director for the Mentally Handicapped steps were taken to form a local inter-departmental committee, comprising representatives of the Departments of Education, Public Health, and Child Welfare and Social Welfare. At the first meeting of this committee in March the Medical Officer of Health was elected Chairman.

In June, Dr A. Jennings, Director for the Mentally Handicapped visited Lismore to hold discussions with this committee, and to address interested bodies including school counsellors, departmental officers, social welfare officers, medical practitioners, members of the local branch of the Sub-normal Children's Association and staff and committee members of Kayleena School for the Sub-normal in Lismore.

Thousand Children Study

Both medical officers co-operated in this study. Of the sixty children in the Health District to be interviewed and examined twelve children were not available for one reason or another—mainly because they had left school and the district.

Speech Therapy

A speech therapist was appointed to the District in 1965. During her period of in-service training in Sydney she visited Lismore as a member of the Diagnostic Team for Atypical Children.

TUBERCULOSIS CONTROL

Thirteen cases were notified during the year compared with twenty-four notifications in 1965 and thirty-five cases in 1964. The positive reactor rate of high school children was 4·4 per cent compared with 8·3 per cent in 1965. No new cases of tuberculosis were discovered during the follow up of the relatives of tuberculin positive high school children.

There was a marked fall in attendances at clinics. This was due (1) to the closure of all clinics for three months in the Lismore area and two months in the Grafton area during the appointment and training of Sisters to replace the two Clinic Sisters who resigned at the beginning of the year: (2) the small number of notifications, and (3) the cancellation of clinics to enable the programme for the mantoux testing of high school children to be completed.

TABLE 7.—ATTENDANCES AT CHEST CLINICS AND SUB-CLINICS, 1965-1966

Clinic								1965	1966
Lismore	..	..	..	..	..	..	..	1,528	813
Casino	..	..	..	..	..	..	..	506	237
Murwillumbah	..	..	..	..	..	..	..	747	491
Kyogle	..	..	..	..	..	..	..	430	147
Grafton	..	..	..	..	..	..	..	683	637
Coffs Harbour	..	..	..	..	..	..	..	250	227
Macleay	..	..	..	..	..	..	..	131	185
Macksville	..	..	..	..	..	..	..	362	243
Total	..	..	..	..	..	..	..	4,637	2,980

MANTOUX TESTING OF HIGH SCHOOLS, 1966

No. of schools tested	..	..	..	..	..	..	..	..	27
No. of children tested	..	..	..	..	..	..	..	..	3,455
No. of tests read	..	..	..	..	..	..	..	..	3,305
Positive	..	..	..	..	..	..	..	..	148
Negative	..	..	..	..	..	..	..	..	3,157
Over 15-mm diameter	..	..	..	..	..	..	..	..	2
Positive reactor rate	..	..	..	..	..	..	..	..	4·4 per cent

PURE FOOD ADMINISTRATION

The routine work of the Senior Food Inspector was over-shadowed by proceedings concerned with the prosecution of a local charlatan specializing in a home-brewed alleged cancer cure. On the 29th and 30th August, at the Grafton Court of Petty Sessions the case of A. W. Hanna, Senior Food Inspector versus Richard John Williams was heard before Mr S. G. Rodey, Stipendiary Magistrate. The defendant was committed under the Medical Practitioners Act, Section 42 (2) (a) (Advertise—willing to give medical advice), and was fined \$60 and \$32 costs. Under Section 554 of the Crimes Act the defendant was required to enter into a recognizance of \$200 to be of good behaviour for twelve months. As expected, the defendant lodged an appeal to the Court of Quarter Sessions, on the grounds that:

- (i) he was not guilty,
- (ii) the evidence disclosed no offence,
- (iii) the conviction was contrary to law,
- (iv) the conviction was against evidence,
- (v) the penalty imposed was excessive.

At the Grafton Quarter Sessions in September the appeal was allowed and the conviction quashed on the grounds that although the label indisputably constituted a willingness to give medical advice no evidence had been tendered that there had been any advertising, in as much as only an officer of government, acting in his official capacity and the seller of the product saw the label. This defeat on what was purely a technicality was most disappointing and confirmed what was already known—that the Act as it stands is not a satisfactory instrument by which such practices may be prevented or controlled.

TABLE 8.—INSPECTIONS, NOTICES, SAMPLES INVESTIGATED, PROSECUTIONS, AND FOOD PLACED UNDER SEIZURE, 1965 AND 1966

Work carried out	1965	1966
Premises inspected	525	571
Warning notices issued	74	34
Samples purchased	153	249
Prosecutions completed	7	18
Food placed under seizure, in lbs	19,291	492

Co-operation between food traders was good and the benefits accruing from this were illustrated by these advances in food manufacturing practice:

- (i) Following a survey and group conferences concerning the quality of pasteurised milk from factories in the District, qualified analytical chemists were appointed by two milk processing factories.
- (ii) Smoke generating plants, based on a design submitted by a departmental officer were installed at two smallgoods factories.
- (iii) One bacon factory adopted the use of a raised impervious platform in bacon salting, on the advice of a departmental officer.
- (iv) Lectures were given, on request, by the Senior Food Inspector to trade and local government organizations.

ABORIGINES' WELFARE

Ante-natal Care of Aboriginal Mothers

The final report of the survey on ante-natal care of aboriginal mothers in the North Coast Health District was submitted to the Maternal Mortality Committee in September, 1966. This survey of the circumstances surrounding 204 pregnancies of aboriginal women living in Stations, Reserves, and in the general community, was carried out during 1964 and 1965 by the Assistant Nurse Inspector with the assistance of the female District Welfare Officer of the Aborigines' Welfare Board.

Some of the significant facts which emerged from the survey were:

- (i) Almost 66 per cent of aboriginal mothers received inadequate ante-natal care; 16.5 per cent were reasonably supervised (4–6 examinations) during pregnancy; and only 17.5 per cent of mothers attended on more than six occasions during pregnancy.
- (ii) The stillbirth rate (12 stillbirths in 204 pregnancies) was 5.88 per cent, compared with a rate of 1.23 per cent in the general population of New South Wales in 1964.
- (iii) Mothers living on stations, with the greatest degree of welfare supervision attended for ante-natal examination much less frequently than did those living on reserves or independently in the community. Over 97 per cent of mothers on stations, and over 72 per cent on reserves were inadequately cared for in this respect.

It was emphasised that the findings of the survey were relevant only to conditions existing in the coastal regions of New South Wales, and that the answer did not lie in the improvement of medical services, except in so far as services for the whole community should be improved. The inadequacy of ante-natal care of aboriginal mothers is only one facet of the whole problem of this minority group.

It is planned to carry out a follow-up survey of the 200 children concerned for twelve months and then up to 5 years of age, to assess morbidity experience and infant and child mortality.

Immunization of Aboriginal Children

Immunization of aboriginal children against Whooping Cough, Diphtheria, Tetanus, and Poliomyelitis was carried out as required throughout the year with the co-operation of the local officers of the Aborigines' Welfare Board.

TABLE 9.—ABORIGINAL CHILDREN IMMUNIZED DURING 1966

Station	Number of Injections			
	Triple Antigen	C.D.T.	Tetanus Toxoid	Salk Vaccine
Cabbage Tree Island	14	51	57	77
Woodenbong	11	44	16	....
Total	25	95	73	77

Worm Infestation

Clinical trials with the broad-spectrum anthelmintic Thiabendazole continued on a small scale. Although results appeared to indicate a reduction in infestation following chemotherapeutic exhibition of the drug, it should be said that most infestations were very light in respect of Hookworm and *Strongyloides*, and the results were deemed to be of no particular significance, and certainly did not justify consideration of the wide-scale use of the drug in the chemoprophylaxis of Helminthiasis in the aboriginal population. In fact we have not yet found the ideal anthelmintic.

HEALTH EDUCATION AND PUBLICITY

There have been a number of requests from various groups and organizations to assist in or promote health education programmes and all officers found it necessary to devote more time to this aspect of the work. Health education activities during the year included press, radio and television releases on local matters; weekly broadcasts on child health; telecasts; addresses and showing of films to various groups and schools; lectures to nurses at the Nurses Training School; and health exhibits at three trade fairs.

MISCELLANEOUS

Poliomyelitis Vaccine Supply

During the year 8,194 single doses of poliomyelitis vaccine were distributed to medical practitioners and local authorities on request. In December, at the request of the Director of State Health Services, a suggested plan of operations for the state-wide administration of Sabin oral vaccine was submitted by the Medical Officer of Health to Central Administration for consideration.

Lectures to Nurses

Staff of the North Coast Health District once again gave lectures to nurses in training at the Regional Training School in Lismore, on Personal and Community Health, The Social Aspects of Disease, and Psychology. The lecturers were the Medical Officer of Health, the Deputy Medical Officer of Health, the School Medical Officer, the Senior Health Inspector, the Senior Food Inspector, and a Health Inspector. The total number of lectures given during the year was eighty-four.

Civil Defence

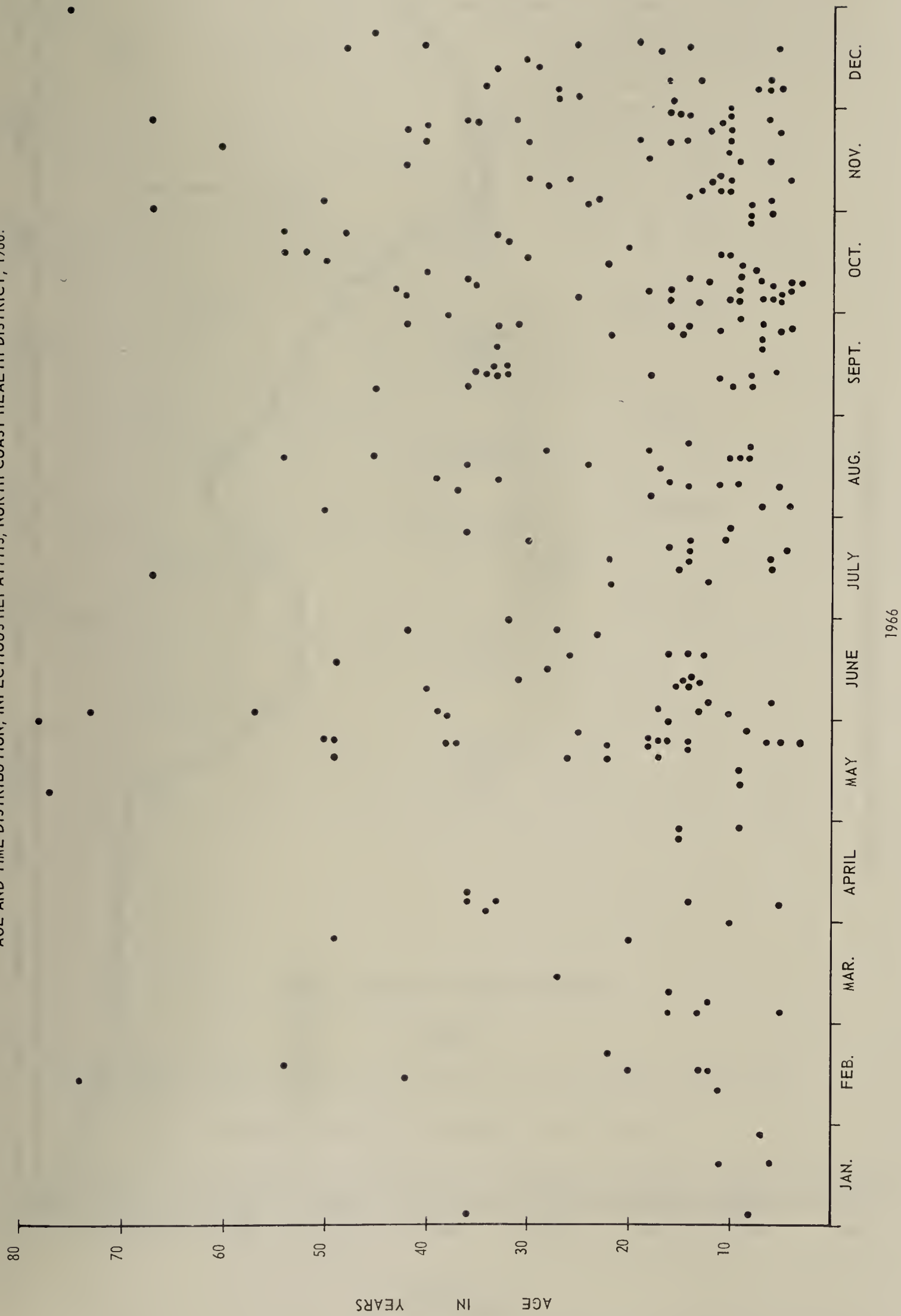
The development of the Richmond-Tweed Civil Defence Region Medical and Health Service continued, and a major step forward was the acceptance by a local medical practitioner, Dr J. Oliver, of the position of officer-in-charge of the Forward Medical Aid Unit (F.M.A.U.). An ex-army officer of wide military experience, he was appointed Staff Officer to this unit in December, and recruitment and training will start in 1967.

Consideration was also given to the formation of a regional hygiene and sanitation unit, in accordance with current thinking in New South Wales.

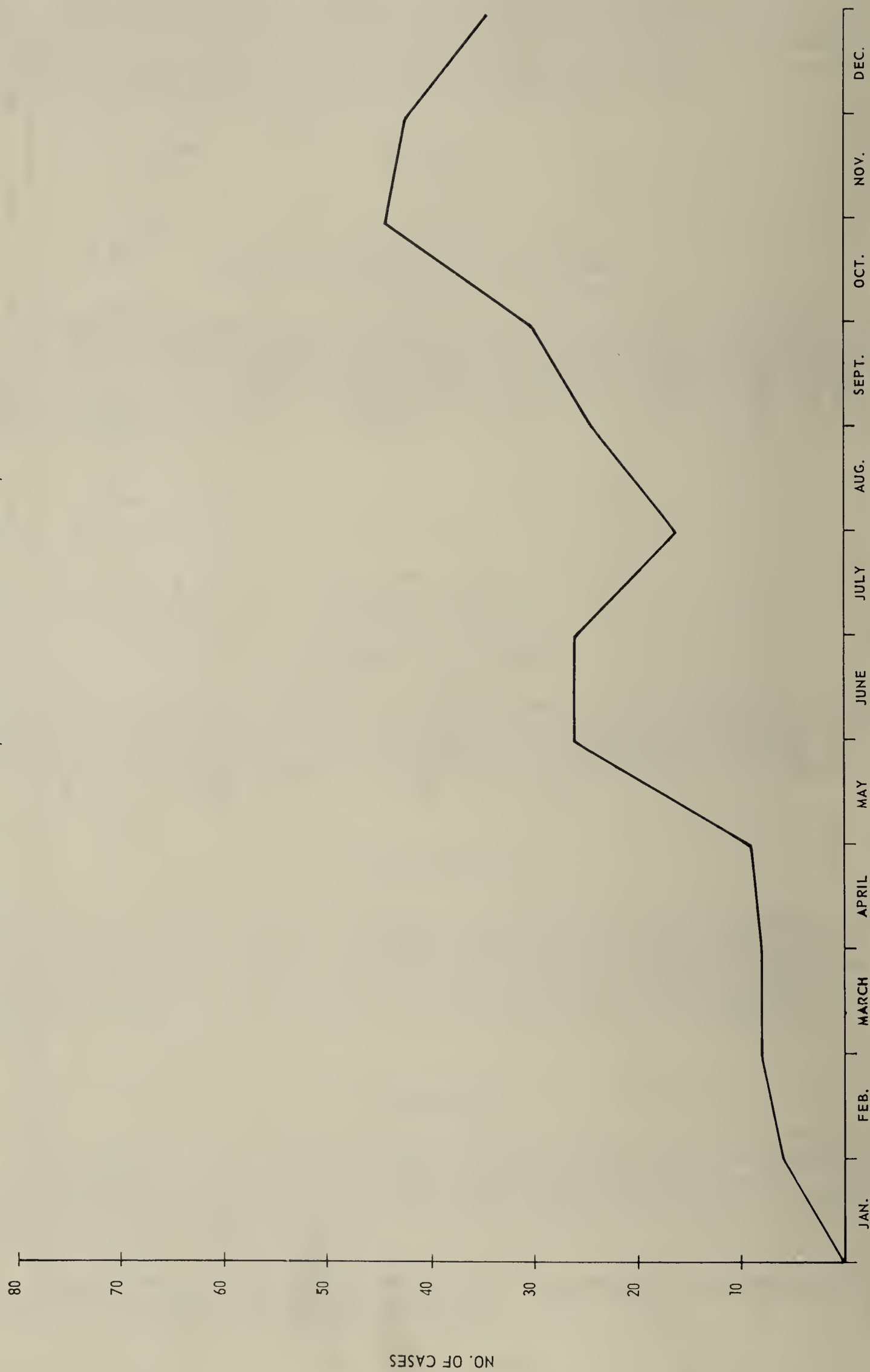
Geriatrics

In November, a 25-bed geriatric unit was opened at St Vincent's Hospital, Lismore. This short-stay rehabilitation unit will be capable of admitting and discharging some 200 patients per annum, and is a logical supplement to the other geriatric community services now operating in this area, Home Aid, Home Nursing, and Old People's Club.

AGE AND TIME DISTRIBUTION, INFECTIOUS HEPATITIS, NORTH COAST HEALTH DISTRICT, 1966.



INFECTIOUS HEPATITIS, NORTH COAST HEALTH DISTRICT, 1966



Notification of Infectious Diseases—1966

Brucellosis							Infectious Hepatitis								
Age Groups		Cases			Deaths			Age Groups		Cases			Deaths		
		M.	F.	T.	M.	F.	T.			M.	F.	T.	M.	F.	T.
All ages	..	1	..	1	All ages	..	158	107	265	1	1	2
10-14	..	1	..	1	1- 4	..	5	3	8
							5- 9	..	29	25	54	1	..	1	
							10-14	..	32	24	56	..	..	..
							15-19	..	24	10	34	..	..	..
							20-29	..	20	9	29	..	..	..
							30-39	..	25	18	43	..	..	..
							40-49	..	14	5	19	..	..	..
							50-59	..	6	5	11	..	..	..
							60 on	..	3	8	11	..	1	1	
Meningococcal Meningitis															
All ages	..	1	1	2	1	..	1								
5- 9	..	1	..	1	..	..	..					
40-49	..	..	1	1	1	..	1							
Ascariasis															
All ages	..	1	2	3	All ages	..	1	1	2
1- 4	1	1	50-59	..	1	..	1
10-14	..	1	..	1	60 on	1	1
15-19	..	..	1	1	..	..	..					
Typhus															
All ages	..	1	..	1	..	..	..					
40-49	..	1	..	1	..	..	..					
Infantile Diarrhoea															
All ages	..	8	4	12	1	1	2								
1-12 months	..	7	3	10	1	..	1								
1-4	..	1	1	2	..	1	1								
Rheumatic Fever															
All ages	..	8	3	11	1	..	1								
1- 4	..	..	1	1	..	..	..					
5- 9	..	6	..	6	..	..	..					
10-14	..	1	2	3	..	..	..					
40-49	..	1	..	1	1	..	1								
							Ancylostomiasis								
							All ages	..	1	1	2	..	..	..
							50-59	..	1	..	1	..	..	..
							60 on	..	..	1	1	..	..	..
							Tetanus								
							All ages	..	1	..	1	..	..	..
							10-14	..	1	..	1	..	..	..
							Leptospirosis								
							All ages	..	1	..	1	..	..	..
							20-29	..	1	..	1	..	..	..
							Scarlet Fever								
							All ages	..	1	4	5	..	..	..
							1- 4	..	1	1	2	..	..	..
							5- 9	..	..	1	1	..	..	..
							10-14	..	..	2	2	..	..	..
							Q. Fever								
							All ages	..	5	..	5	..	..	..
							15-19	..	2	..	2	..	..	..
							20-29	..	2	..	2	..	..	..
							40-49	..	1	..	1	..	..	..

North Western Health District

STAFF

Medical Officer of Health: Dr J. HENSON, B.A., M.B., Ch.B., D.P.H., D.T.M. & H.

Deputy Medical Officer of Health: position vacant.

One School Medical Officer; one Senior Health Inspector; one Senior Food Inspector; two Health Inspectors; one Assistant Nurse Inspector; two Tuberculosis Clinic Sisters; one School Sister; one Speech Therapist; one clerk; one Shorthand-typiste; one Office Assistant.

THE DISTRICT

There have been no changes in the boundaries of Local Government Authorities, consisting of nine municipalities and twenty-one shires. Dumaresq, Nundle, and Liverpool Plains Shire Councils are still without health inspectors. This is affecting the development of health services and impeding the effective control of sanitary conditions in their areas. Sanitary surveys will be resumed in 1967 to prove the need for health inspectors. The Namoi Shire and Inverell Councils have appointed additional health inspectors.

Although many Councils persist in regarding health services of secondary importance, they are nevertheless becoming increasingly co-operative. However, health inspectors are still being saddled with extraneous duties which detract from their health work. Ill-conceived decisions by Councils all too often tend to over-ride the best advice of health inspectors; and parochial influences can stultify the work and sap the morale of even the best of health inspectors. Some health inspectors are so dominated by their Councils and so afraid of losing their positions, that they are prepared to implement Council decisions, often against their better judgement. This is particularly evident in food matters. These problems could be overcome by the State subsidizing the salaries of health inspectors and assuming some administrative control over their work and working conditions.

VITAL STATISTICS

(The figures in parentheses are those for 1965)

Population.—the population of the District at the June, 1966, census (preliminary figures) was 157,769 (157,380).

Live Births.—there were 3,145 (3,239) live births in this District, equivalent to a rate of 19.93 (20.54) per 1,000 population. Of these, 1,670 (1,656) were males; and 1,475 (1,583) females.

Deaths.—deaths numbered 1,306 (1,313) equivalent to a rate of 8.28 (8.34) per 1,000 population. Of these 802 (781) were males and 504 (532) females.

Infantile Mortality.—deaths under one year of age numbered 72 (74), equivalent to a rate of 22.89 (22.85) per 1,000 live births. Of the total number of deaths of infants under one year of age, 46 (50) or 63.9 (67.6) per cent occurred within one week of birth; and 48 (57) or 66.7 (77.0) per cent within one month. The corresponding rates per 1,000 live births for the two age groups were 14.67 (15.44) and 15.26 (17.60) respectively.

Still Births.—there were 40 (41) still births in the District, representing 1.29 (1.25) per cent of all births (live and still).

There has been a further decline in birth-rate.

The death-rate has fallen.

TABLE I.—ENVIRONMENTAL HYGIENE INSPECTIONS

	1965	1966
Aboriginal Stations and Reserves	11	17
Public amenities	22	32
Dwellings and houses	57	179
Public institutions	36	42
Licensed premises	51	88
Meat supplies	41	20
Noxious trades	174	63
Complaints investigated	39	29
River pollution	10	5
Refuse disposal	172	169
Samples for investigation	71	183
Sanitary surveys	8	27
Septic tanks	636	409
Sewage treatment works	36	28
Water supplies	36	32
Other inspections	58	48

The annual health and sanitary inspections of Aborigines Stations and Reserves have been continued. Reports are forwarded to the Aborigines Welfare Board. There has however, been little general improvement in the living conditions of these people except for the new housing estate at Moree for those residents who were living in humpies under the most insanitary conditions along the Mehi Creek. A few new houses have also been erected in other centres. However, squatters camps are still going up, as for example, near Narrabri and round Wee Waa, especially during the cotton-growing season.

A special health survey of the Aborigines conducted in 1965 showed all the characteristics of an underprivileged and ignorant people living in squalid conditions. They require health education, and all the social welfare and other assistance an affluent society can extend to them. They cannot be expected to pull themselves up by means of their own bootstraps.

Many people still live in substandard houses in which hygiene is difficult to maintain, with bad effects on the upbringing of children. One closure order was taken out.

During the cotton-growing season at Wee Waa as many as two thousand people, often with families, may seek work on the farms. Housing conditions were so poor that a special meeting of those concerned was called at Narrabri to discuss the necessary remedies. Although the Department of Labour and Industry laid down more stringent regulations, conditions have not improved to any great extent. There has been a great increase in drunkenness, venereal disease and crime. The effects on the young children growing up under these conditions have still to be seen.

Hygienic conditions in many of the older hotels are still very poor. Some of them are so dilapidated that the owners threaten to pull them down rather than effect the necessary improvements. Sanitary surveys were carried out in the Severn and Namoi Shires.

The major municipalities were again advised to make two collections of garbage per week to prevent fly and rodent attraction, breeding and smells; but to no avail. In Tamworth, the local Chamber of Commerce is now also taking up this matter. Anti-litter campaigns are however, very much in evidence.

One of the most pleasing features in the District is the increasing extent to which pan lavatories at schools are being replaced with water closets and septic tanks. On the other hand, the lack of toilet facilities at grain silos is causing concern. This matter has been brought to the notice of the Grain Elevators Board.

The investigation of “tailwaters” from the cotton-fields at Wee Waa for insecticide content has been commenced.

Werris Creek is now sewered. Joint inspections of likely sites for sewerage treatment works at Bingara and Walcha were also carried out.

Three regional abattoirs have now installed ponds for treating their wastes, with good results. Maturation ponds at some Councils’ sewerage treatment works are ensuring a better standard of final effluent.

The water position eased with the relief of the drought; but restrictions on water usage have been re-imposed in many centres. A careful watch is being kept on the growth of algae, for which copper sulphate is a specific deterrent. Many centres are increasing the capacities of their water storage facilities.

In addition to Tamworth, Manilla is now also fluoridating its water supplies. Fluoride plants are inspected monthly. Glen Innes, Walcha and Armidale are likely to start fluoridating their water supplies next year.

PURE FOOD ADMINISTRATION

TABLE II.—FOOD INSPECTIONS

								1965	1966
Food—									
Premises inspected	..	..	..	..	..	..	..	985	790
Notices issued	..	..	..	..	..	..	..	25	32
Prosecutions	..	..	..	..	..	..	..		10
Samples taken—									
Meat and smallgoods etc.	..	..	..	..	..	..	..	259	260
Prosecutions	..	..	..	..	..	..	..		17
Milk and cream	..	..	..	..	..	..	..	274	207
Prosecutions	..	..	..	..	..	..	..		1
Spirits tested	..	..	..	..	..	..	..	353	585
Seizure of foodstuffs (lbs).	..	..	..	..	..	..	..	2,203	1,620
Total prosecutions	..	..	..	..	..	..	..	52	37
Fines	..	..	..	..	..	..	..	\$696	\$707
Costs	..	..	..	..	..	..	..	\$106	\$64

Milk standards are slowly improving. With the greater availability of pasteurised milk, raw milk is less extensively used. The sale of unlabelled poultry is causing concern, as is the unhygienic handling of rabbit carcasses for human consumption.

Foodstuffs seized must be far below the actual amounts of deteriorated stocks still held by food purveyors in this Health District. The economic loss must be considerable, apart from the sale of unwholesome foodstuffs to the public.

Hygienic conditions on many food premises are still very bad. This problem is being solved by health education rather than by legal action.

PERSONAL HEALTH SERVICES

TABLE III.—COMMUNICABLE DISEASES

Diseases notified							1965		1966	
							Cases	Deaths	Cases	Deaths
Infantile Diarrhoea	..	..	..	..	..	..	42	7	46	7
Infectious Hepatitis	..	..	..	..	..	..	156	1	135	1
Leptospirosis	..	..	..	..	..	..	....	....	1	....
Tuberculosis	..	..	..	..	..	..	18	1	43	2
Typhoid Fever	..	..	..	..	..	..	....	....	1	....
Ascariasis	..	..	..	..	..	..	1	....	1	....
Puerperal Fever	..	..	..	..	..	..	3	....	1	....
Rheumatic Fever	..	..	..	..	..	..	11	3	3	....
Scarlet Fever	..	..	..	..	..	..	25	....	32	....
Staphylococcal Pneumonia	..	..	..	..	..	..	....	....	1	1
Staphylococcal diseases in infants under 4 weeks	..	..	..	..	..	..	63	....	8	....
Brucellosis	..	..	..	..	..	..	3	....	....	....
Meningococcal Infection	..	..	..	..	..	..	2	....	....	....
Virus Encephalitis	..	..	..	..	..	..	4	....	....	....
Hydatid Disease	..	..	..	..	..	..	not notifiable	not notifiable	1	....
Tetanus	..	..	..	..	..	..	not notifiable	not notifiable	1	1
Totals	..	..	..	..	..	..	328	12	274	12

Outbreaks of infantile diarrhoea occurred in Moree, Wee Waa and later in the year at Tenterfield and Glen Innes. There was a sharp attack in Tingha among Aborigine children, one of whom died. In Moree, doctors did not notify a single case; and as far as could be ascertained, no specimens were sent for laboratory investigation. Notifications are often so delayed that prompt action cannot be taken.

The case of typhoid occurred in Tamworth. He recovered. Extensive and prolonged investigations failed to detect the source of infection. Typhoid last occurred in Tamworth in 1938.

Infectious hepatitis is still the most prevalent infectious disease; but the number of cases notified, showed a decline. The second death from this disease since 1962 was recorded.

Scarlet fever continued to affect the sector of the District stretching from Gunnedah to Armidale.

The increase in the number of cases of tuberculosis notified was due to the visit of the Anti-Tuberculosis Association Mobile X-ray Units to the Tenterfield, Armidale, Tamworth and Barwon Electorates.

Anthrax broke out among cows on a few dairy-farms near Tamworth. It is learnt that one human being was affected after performing an autopsy on a cow; but he recovered with penicillin.

There was a marked increase in the occurrence of venereal disease, especially in the Wee Waa—Narrabri—Moree sector. This coincides with the influx of many hundreds of seasonal workers, especially to the cotton-fields round Wee Waa. Every possible effort is made to trace sources of infection. Notification by doctors and hospitals is not satisfactory; and routine serological and cervical smear examinations on antenatal patients are seldom carried out. Steps are being taken to rectify matters.

TABLE IV.—ATTENDANCES AT TUBERCULOSIS CLINICS

	1965	1966
Proven pulmonary tuberculosis	249	157
Inactive cases (all types)	334	362
Contacts	1768	1690
Other chest conditions etc.	1064	594

The main tuberculosis clinic is situated in the Chest Block at the Base Hospital, Tamworth. The total number of sub-clinics at District Hospitals have now been increased to nine, as three new ones were opened at Inverell, Glen Innes and Tenterfield. There are good reasons to believe that local doctors will co-operate by becoming medical officers of sub-clinics.

MATERNAL AND CHILD HEALTH

Child Health

TABLE V.—SCHOOL MEDICAL SERVICES—EXAMINATIONS

Type						Number of Schools	Examinations	Reviews	Parent Interviews
Full-time service	..	..	..	..	..	71	1,967	5,511	45
Shire Scheme	..	..	..	..	..	41	1,483	1,229	21
Totals	..	..	..	..	..	112	3,450	6,740	66

The full-time service had to be curtailed owing to staff problems. A start was made on the “One Thousand Schoolchildren Study”.

The Shire/Council Scheme operated in nine local authority areas. It is hoped to replace some of the schemes with a full-time service, as it is difficult to get local doctors to co-operate.

A Diagnostic Team from Sydney visited Armidale in October and assessed defects in 41 children living on the Northern Tablelands. Of these, five still had to be referred to Sydney.

Maternal and Infant Welfare

The total attendances for the nineteen Baby Health Centres was 31,489. This increase in attendances is mainly due to the greater amount of home-visiting being done.

Although many maternity units at District Hospitals have been rebuilt, they are not being extensively used. The falling birth-rate may be partly responsible for this; but the shortage of doctors is perhaps the major reason. An interesting development is the reopening at Mungindi of the Maternity Unit at the Hospital situated across the border in Queensland.

A new departure is the employment of the Assistant Nurse Inspector on medico-social work with particular reference to geriatrics, mental health, child care, immunization follow-up, venereal disease follow-up etc.

The new Baby Health Centre at Gunnedah was opened in November. The Baby Health Centres at Moree and Bingara should be completed during 1967.

TABLE VI.—SPEECH THERAPY

Total number of cases seen during 1966	..	..	..	..	..	210
Attendances	..	..	..	..	..	1137
Cases admitted or re-admitted—						
current	..	..	..	..	..	41
follow-up	..	..	..	..	..	97
Cases discharged—						
current	..	..	..	..	..	37
follow-up	..	..	..	..	..	53
Interviews	..	..	..	..	..	128
Review interviews	..	..	..	..	..	152
Number awaiting initial interviews	..	..	..	..	..	20
Visits to Schools, Baby Health Centres, etc.	..	..	..	..	..	59

By arrangement, the Speech Therapist also serves the Base Hospital, Tamworth. Liaison has been affected with the local Education Department, the Vocational Guidance Bureau, and other agencies. The Therapist joins the School Medical Officer on visits to schools.

PRIVATE HOSPITALS AND REST HOMES

	number	beds
Private Hospitals	4	54
Rest Homes	3	47

With the encouragement and advice of the Department a superior type of private hospital was erected in Tamworth.

These Hospitals and Rest Homes are regularly inspected.

One private hospital was warned to improve conditions.

VACCINATION MEASURES

A total number of 4,637 doses of polio vaccine was issued, mainly to doctors. B.C.G. vaccine is being distributed to doctors who are B.C.G. vaccinators for the inoculation of new-born babies, where indicated.

MEDICAL EXAMINATION OF CANDIDATES FOR THE PUBLIC SERVICE, ETC: 51

HEALTH EDUCATION AND PUBLIC RELATIONS

Numerous releases of topical and local interest were made to Press, Radio and Television who are displaying an increasing interest in all health matters.

The annual conference of health inspectors was held in Inverell where food additives, and the conduct and control of swimming-pools were discussed. At the conference of Baby Health Centre Sisters held in Tamworth, the emphasis was on home-visiting and medico-social conditions.

Addresses to local organizations included: "The Hospital Patient is a Person" and "The Social Worker and Community Health."

Owing to the deterioration of water supplies, advice in the form of a circular, was issued on the use of bleaching-powder.

The pegboard display panel for health posters and pamphlets at the Tamworth railway-station is proving very popular with the travelling public.

The Namoi Regional Development Committee is kept informed of health conditions in its region by means of quarterly reports. These have been well received. The Regional Chamber of Commerce has also asked advice on many occasions.

Many new voluntary bodies with health aims continue to be formed: the Regional Committee for Mentally Retarded, the Old People's Welfare Committee and Meals-on-Wheels in Armidale, a Marriage Guidance Committee in Tamworth, a pre-school centre in Inverell, a School for the Intellectually Handicapped in Gunnedah, and so on.

The Aid Retarded Persons Association and the Far West Children's Health Scheme carries out surveys on mental retardation in children in this region.

The Lions Club sponsored a Glaucoma Clinic in Tamworth. In Moree, the Sisters of Charity opened a "Clinic" near the Aborigines Station.

The shortage of doctors in this District is creating not only health problems but also exercising a retarding influence on developments in this area. Murrurundi, Premer, Werris Creek, Bellata, Ashford and Bundarra have all lost their doctors.

SURVEYS

A survey into the Commonwealth Free Milk Scheme to local schools showed that most of the milk was pasteurized. There were very few complaints.

The investigation into the presence of salmonellae in locally processed poultry has so far given negative results.

The ornithosis survey in poultry processors showed that they were not more affected than the population at large. Infection seems to take place subclinically and can hardly be regarded as an occupational hazard.

Riverina Health District

Location: State Government Offices, Cooper Street, Cootamundra

STAFF

Medical Officer of Health: DAVID J. LAW, M.B., B.S., D.P.H.

Deputy Medical Officer of Health: B. H. STRANGWAYS-DIXON, M.B., B.Chir., M.R.C.S., L.R.C.P., D.P.H.

One senior health inspector; two health inspectors; one senior food inspector; one assistant nurse inspector; two tuberculosis nurses; nineteen baby health centre sisters; one senior clerk; one shorthandwriter-typist; one office assistant.

During the year the following additions to the staff were effected:

Deputy medical officer of health; assistant nurse inspector; nineteen baby health centre sisters; two health inspectors, one office assistant.

EXTENT OF THE DISTRICT

The Riverina Health District now comprises 10 municipalities including the cities of Albury and Wagga Wagga and 25 shires. The Shire of Wentworth was included in the District towards the end of the year.

VITAL STATISTICS

The population of the district at June 30, 1966, was estimated at 247,497.

There were 5,106 live births, equal to a rate of 20·63 per 1,000 of population. Of these 2,631 were males and 2,475 females.

Deaths numbered 2,054, equal to a rate of 8·30 per 1,000 of population. Of these 1,296 were males and 758 females.

Deaths under one year of age numbered 105, equal to a rate of 20·56 per 1,000 live births. Of these 78 or 74·3 per cent occurred within one week of birth, and 81 or 77·1 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 15·28 and 15·86 respectively.

There were 62 stillbirths representing 12·0 per cent of all births—live and still.

NOTIFIABLE COMMUNICABLE DISEASES

TABLE I—NOTIFICATIONS OF CASES AND DEATHS, 1965-1966

Disease	1965		1966	
	Cases	Deaths	Cases	Deaths
Brucellosis	6	..	4	..
Diphtheria	1	..	..	..
Encephalitis—viral .. .. .	..	..	2	..
Gonorrhea	12	..	35	..
Infective Hepatitis	179	..	199	4
Infantile Diarrhoea	18	4	26	2
Syphilis	2	..	10	..
Tuberculosis	34	..	23	..
Typhoid Fever	1	..	..	..

Infective Hepatitis

The epidemic amongst the primary school children in Cootamundra which had persisted throughout the last four months of last year ended during the long vacation, presumably due to the interruption of the pre-existing close contact between the children. Because of the possible danger that the resumption of school might result in a further outbreak and as the school tuckshops were highly suspect, the Municipal Council, after consultation with the Medical Officer of Health, decreed that the tuckshops at both primary schools should remain closed until the beginning of April and that wherever possible, children should return home for their midday meal. Not a single further case of infective hepatitis in this group was reported during the next six months.

Venereal Diseases

From enquiries made, it appeared that the manifold increases in the notifications of both gonorrhoea and syphilis were largely due to the emphasis placed on notification by the Medical Officer of Health during all contacts, both written and personal, with medical practitioners.

As would be expected, the majority of infections were exotic in origin being contracted in one or other of the metropolises.

Tuberculosis

The effective supervision of widely scattered contacts imposed considerable strain upon the chest clinic sisters based at Albury and Wagga, as both these centres are situated in the south eastern sector of the District. The adequate coverage of the extensive northern and western areas will only be possible when a third base clinic is established at Griffith.

The total number of attendances (patients and contacts) at all clinics was 3,065, while clinic sisters made 401 home visits during the year. Clinic activities were responsible for the discovery of 6 new cases of pulmonary tuberculosis.

ENVIRONMENTAL HYGIENE

TABLE II—ROUTINE INSPECTIONS AND INVESTIGATIONS, 1966*

Abattoirs and slaughter yards	..	..	..	..	..	..	66
Aborigines stations and reserves	..	..	..	..	..	..	8
Camping grounds, caravan parks, swimming pools	..	..	..	..	..	..	34
Dwellings and shops	..	..	..	..	..	..	143
Hotels	..	..	..	..	..	..	12
Nuisances and complaints	..	..	..	..	..	..	24
Noxious trades	..	..	..	..	..	..	172
Public institutions and amenities	..	..	..	..	..	..	47
Samples submitted for analysis	..	..	..	..	..	..	139
Sanitary surveys	..	..	..	..	..	..	3
Sanitary and garbage depots including proposed sites	..	..	..	..	..	..	197
Septic tanks—applications dealt with	..	..	..	..	..	..	762
—mass installations	..	..	..	..	..	..	6
Sewage treatment works including proposed sites	..	..	..	..	..	..	49
Miscellaneous	..	..	..	..	..	..	4

* As 1966 was the first complete year in which the District was in operation, comparison with 1965 has not been made.

Sanitary Surveys

The appointment of two health inspectors to the staff enabled sanitary surveys to be carried out in the Shires of Holbrook, Hume, and Culcairn. Some improvements had been carried out since the previous surveys in 1963, although, particularly in Culcairn Shire, a number of the recommendations made at that time had not been implemented.

Noxious Trades

All noxious trades premises have now been inspected at least twice since the District Office opened. A considerable improvement in the standard of these premises was noted. However, the conditions found at many slaughtering premises continued to cause concern.

Water Supplies

Many of the town water supplies are considerably below accepted standards. Gundagai Shire Council was persuaded to chlorinate the Gundagai supply in January, 1966. The City of Albury, whose supply has been shown to be unsatisfactory on several occasions, has still not decided to introduce an adequate treatment plant.

Much investigation into the potability of reticulated water supplies remains to be done. A number of Councils appear to be loath to submit water samples for examination.

Sewage Treatment

Twenty-five towns in the District are sewered and work commenced on new sewerage schemes at Jerilderie, Coolamon, Lockhart, and Tocumwal. Sites were selected for treatment works at Moama, Holbrook, Berrigan, Finley, Ungarie, and Dareton. These additional works will assist greatly in raising the standards of environmental hygiene in these towns.

Schools

Many defects relating to closet accommodation came under notice as a result of school medical officers' sanitary reports and where practicable, these were further investigated before the routine report was sent to the Riverina Director of Education. The installation of septic tanks at a number of schools has overcome the problems associated with pan and cesspit closets.

Snowy Mountains Authority Area

Joint inspections with Snowy Mountains Authority officers were made of all camps and establishments operated by the Authority within this district. Advice was given concerning the operation and maintenance of sewage treatment plants. It was pleasing to note that, generally, a high standard of hygiene was being maintained.

Courses in Swimming Pool Management

The Health Inspection staff conducted two-day courses in swimming pool operation and maintenance for Local Government health surveyors and pool operators at Cootamundra and Wagga Wagga. These courses were well received by those attending and gained considerable favourable press publicity for the district office.

Health Inspectors' Conference

The first annual conference of Council health inspectors and Health District officers was held at Wagga Wagga on April 28 and 29. The conference was opened by the Mayor of Wagga and guest speakers addressed the meeting on garbage disposal, hydatid diseases, and the control of infectious diseases, with special reference to infective hepatitis.

PURE FOOD ADMINISTRATION

As this was the first complete year for which a full time inspector was engaged in the District it was a very busy period. The Senior Food Inspector attended court on 40 days, during which 93 cases were heard.

There was a considerable drop in milk adulteration in the second half of the year, probably due to the publicity given by the press to successful prosecutions of vendors of adulterated milk. Meat adulteration is still rife however, and a considerable quantity of work remains to be done in connection with accurate labelling.

TABLE III— INSPECTIONS, SAMPLES, NOTICES AND PROSECUTIONS—1966*

Premises inspected	..	..	..	..	..	..	..	..	803
Notices served	..	..	..	..	..	..	..	..	30
Samples—									
purchased	..	..	..	..	..	..	..	..	533
below standard	..	..	..	..	..	..	..	..	127
Food seized and destroyed	..	..	..	..	..	..	..	..	420 lbs
Complaints investigated	..	..	..	..	..	..	..	..	11
Prosecutions completed	..	..	..	..	..	..	..	..	93
Fines	..	..	..	..	..	..	..	..	\$1,585
Costs	..	..	..	..	..	..	..	..	\$214

* As 1966 was the first complete year in which the District was in operation, comparison with 1965 has not been made.

MATERNAL AND INFANT CARE

The 66 centres and depots in the District are staffed by 19 sisters. All were inspected routinely by the Assistant Nurse Inspector.

The first District conference of Baby Health Centre Sisters was held in Cootamundra on 1st and 2nd December. Guest speakers included Dr Grattan-Smith and Dr G. Angel-Lord, of the Section of Maternal and Infant Care. It is intended that the conference become an annual event.

During the year a new centre was opened at Oaklands, and planning for new centres at Ivanhoe and Tallimba was begun.

The total attendances at centres was 63,905, with individual attendances totalling 8,529. Centre sisters carried out 1,343 hospital visits and 1,653 home visits.

CHILD HEALTH

Medical Examinations of School Children

Since there is no Departmental School Medical Officer in this Health District, the programme of medical examinations of school children was conducted entirely through the Country Councils Scheme.

Compared with the previous year there was a substantial increase in the number of children examined. Twenty-five Councils participated and several others planned to do so, but were unable to start. Despite the best efforts of both Councils and the District office, there remained 8 local authorities unable to obtain the services of a doctor, including the major centres of Wagga, Narrandera, and Leeton.

TABLE IV— EXAMINATIONS UNDER COUNTRY COUNCILS SCHEME

Year	Schools Visited	Children Examined		Parents Interviewed
		Fully	Reviewed	
1965	86	3,739	3,415	297
1966	150	9,611	4,296	388

The medical examinations of some 50 Riverina children included in the "One Thousand Child Survey" were undertaken by the Deputy Medical Officer of Health.

Atypical Children

That there are no Child Health Centres in the Riverina Health District is a matter for serious concern. This hiatus in the health services to children was partially filled, however, by the visits of a diagnostic team from the Bexley Child Health Centre and the Assistant Director, Special Services. The team, consisting of a medical officer, psychologist, social worker, and speech therapist, spent a week in Wagga. Accompanied by a speech therapist, the Assistant Director, Special Services, came to Albury and advised on various children in need there. Until such time as a Child Health Centre is established in the District, regular visits by such teams will remain one of the outstanding needs of this area.

ABORIGINES WELFARE

Settlements in and around Narrandera, Griffith, Balranald, and Wentworth were visited regularly by Sisters from the appropriate Baby Health Centres. The arrival in the second half of the year of Aborigines Welfare Board officers, based at Griffith and Deniliquin, resulted in more effective liaison with the Board and permitted the planning of an immunization campaign.

THE INTELLECTUALLY HANDICAPPED

The Riverina Regional Inter-departmental Committee was formed during the year, with the Medical Officer of Health as the Departmental representative. Regular meetings produced satisfactory progress to the stage where details of existing facilities had been collated and a list of most of the intellectually handicapped children of school age had been compiled, together with some information concerning pre-school children.

A Day School for the intellectually handicapped was opened by the Albury branch of the Sub-normal Children's Welfare Association towards the end of the year.

PRIVATE HOSPITALS

There were only two licensed private rest homes and one private hospital operating in the District during 1966. The two homes, both situated in Wagga, and the hospital, located in Albury, were inspected regularly. Although these inspections resulted in a reasonably steady, if slow, lifting of standards there is still room for improvement.

SOCIAL WELFARE

An analysis and assessment of the various services in existence throughout the District was made. In the light of the information obtained circulars were prepared and circulated to all Councils encouraging them to bear in mind the institution of various personal and social services. The Medical Officer of Health and his Deputy became involved in the Cootamundra Care of the Aged and Meals on Wheels committees which were formed during the year.

HEALTH EDUCATION AND PUBLIC RELATIONS

The course of lectures on Personal and Communal Health prescribed in the training syllabus was given to the trainee nurses attending the Regional Training School at Cootamundra.

Talks on a variety of subjects were delivered to a number of local bodies. A short health talk directed to schoolchildren was prepared on magnetic tape and was played to the schools in their areas by several Health Surveyors during Health Week.

During the Cootamundra Wattle Festival, the State Government Offices were opened to the Public and advantage was taken of this to arrange exhibits and displays on Departmental services and certain specific environmental health hazards.

Regular newsletters dealing with topics of mutual interest and local concern were distributed to all general practitioners in the District. Personal calls were made on as many of these doctors as possible.

THE RIVERINA REGION HOSPITALS ADVISORY COUNCIL

The Regional Advisory Council was set up by the Government as a result of Cabinet consideration of the report of the Hospital Services Committee. The Medical Officer of Health was appointed as a member of the Council and attended its inaugural meeting in November.

Broken Hill and District

STAFF

DR J. T. CULLEN, M.B., B.S.

VITAL STATISTICS

The population of the Broken Hill Municipal District at 31st December, 1966, was enumerated at 30,015.

The deaths for the period under review numbered 267. There were 647 births.

COMMUNICABLE DISEASES

TABLE 1.—INCIDENCE OF NOTIFIABLE DISEASES, BROKEN HILL, 1966

Disease										1966
Scarlet Fever	..	..	..	..	..	..	..	..	..	..
Infectious Hepatitis	..	..	..	..	..	..	..	..	..	45
Infantile Diarrhoea	..	..	..	..	..	..	..	..	..	..
Staphylococcal disease in infants under four weeks	..	..	..	..	..	..	..	..	..	..
Staphylococcal Mastitis	..	..	..	..	..	..	..	..	..	..
Tuberculosis	..	..	..	..	..	..	..	..	..	2
Poliomyelitis	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	47

There has been a marked increase in the incidence of Infectious Hepatitis.

TABLE 2.—EXAMINATIONS CARRIED OUT—1966

Examinations and interviews as Medical Officer of Health	..	..	..	95
Post Mortem examinations at the request of the Coroner	..	..	..	45
Attendances at Court and giving evidence in police cases	..	..	..	30
Examinations of arrested persons or prisoners	..	..	..	15
Visits to gaol for examination of prisoners	..	..	..	10
Examinations and reports on Police Constable re fitness for duty	..	..	..	39
Government examinations (Public Service Board, Railway Department, Education Department)	..	..	..	219

The number of new patients examined at the Anti-Tuberculosis Clinic was 26, while attendances totalled 46.

SCIENTIFIC SERVICES

Government Analyst's Branch

Government Analyst: MR E. S. OGG, B.Sc. (Hons.), A.R.A.C.I.

Deputy Government Analyst: MR. W. F. FISHER, A.S.T.C., A.R.A.C.I.

Details of samples and specimens examined during the year are tabulated below, the figures for 1965 being included for comparison.

	1965	1966
FOOD—		
Milk	11,556	12,002
Meat	4,977	4,999
Smallgoods	273	186
Other Foods	1,312	1,224
Food (Bacteriological)	517	409
DRUGS	216	185
Government Stores Department	426	449
Police Authorities	132 cases	166 cases
Coronial Enquiries	1,201 cases	1,175 cases
Division of Occupational Health	348	193
Miscellaneous Authorities (Institutions, Hospitals, Medical Practitioners, etc.)	1,082 examinations	726 exhibits
Water Pollution—		
Water (chemical)	803	992
Sewage	441	568
Water and sewage (bacteriological)	4,681	5,212
Water Fluorides	86	109
Miscellaneous Bacteriological Examinations	1,256	911

FOOD LABORATORIES

Milk: There was an approximate 4 per cent increase in the number of milk samples examined during this year. However, there was a 10 per cent reduction in the percentage of adulterated samples, a decided improvement on last year's figures when the percentage of adulterated samples showed an alarming increase. The percentage of samples showing added water however, is still over 50 per cent in advance of the 1964 figures.

Particulars of samples taken and adulterations are shown in Appendix I together with comparable figures for 1964 and 1965.

Milk Products: Only one sample out of 377 cream samples examined was found deficient in fat and underpasteurized.

Four out of 7 cream mixtures contained peroxide.

Of 52 butters 8 contained excessive moisture and 4 contained foreign fat.

Sixteen samples of cheese were examined, and of these 8 contained excess moisture and 2 were deficient in fat content. Antioxidant was found in 1 sample.

Three out of 19 ice cream samples were deficient in fat.

Miscellaneous samples examined included flavoured milks, flavoured ices, ice cream mixture, reduced cream, skim milk, mock cream and milk powders.

A collaborative study of milk freezing points as determined by the Hortvet and Fiske cryoscopes was carried out in conjunction with the laboratory of the Dairy Farmers Co-op. Limited. Results were very satisfactory and indicated good agreement between the two laboratories and with both instruments. (See Appendix II).

Collaborative work was also carried out with the same laboratory with regard to the efficiency of pasteurisation as determined by the Kay and Graham technique as currently used in the Government Analyst laboratory and the newer Aschaffenburg & Mullen technique. Here again results were very satisfactory and agreement between the two laboratories good. It has been decided to recommend that the Regulations under the Pure Food Act be amended to replace the Kay and Graham test with the Aschaffenburg and Mullen test. This test is shorter in duration, and less subject to interference.

Meat and Meat Products: The number of meat samples examined, (4,999) was practically identical with that of 1965. There was however an increase in the percentage of adulterated samples of approximately 25 per cent. This increase was largely brought about by the increased use of the malachite green field test for sulphur dioxide by inspectors in country areas. This is indicated by the percentage of meat samples submitted from country areas which were found to contain sulphur dioxide rising from 10·9 per cent to 45·3 per cent and the percentage of minced meat so found rising from 27·5 per cent to 52·0 per cent.

There was also a sharp rise in the percentage of sausage meat and sausage samples submitted from country areas which contained excess of sulphite preservative from 2·6 per cent to 6·9 per cent.

Particulars of these adulterations are shown in Appendix III.

Only 4 out of 186 samples of smallgoods examined contained excess preservative.

One sample of canned meat out of 9 examined was deficient in meat content.

One hundred and sixty-seven samples of meat were examined in connection with supply to Government Institutions under Government Stores Contract. Repeatedly the samples did not conform to Contract Specifications. Fifteen per cent of the samples contained fat in excess of that specified, a proportion much the same as was found in the previous year. Almost 17 per cent were deficient in meat content, as compared with 5·3 per cent in 1965.

Foreign Matter in Food: Samples of food alleged to contain foreign matter were forwarded to the laboratory for examination. In number over 100 a year, submission of these followed a radio session conducted by the Chief Food Inspector. The most common complaints relate to the presence of rodent excreta, but in many cases the foreign matter is found to be grease or other extraneous matter. Other substances found are sand in breakfast cereal, epsom salts in sugar, fine particles of steel wool on pikelets. An alleged bitter taste in chocolate sprinkles was found to be due to the presence of about 1 per cent of caffeine.

Vanilla Essence: Following upon the work of last year which revealed the presence on the market of a number of adulterated essences of vanilla, a further survey was carried out this year. The same general picture emerged. Five out of 15 samples, whilst complying with the analytical standards laid down in the Pure Food Regulations, were found to be grossly deficient in the natural constituents of vanilla beans and showed the presence of a foreign acid substance. They quite clearly contained added synthetic vanillin.

As a result of these investigations a new standard has been proposed for incorporation in the Pure Food Regulations in order to tighten up the control over vanillin essences and oleoresins.

Poisons, etc. in Food Containers: Every year examples are encountered of harmful and dangerous substances being sold in what are normally food containers. The danger exists that the contents may be ingested in the mistaken belief that the containers contain the food or drink normally present. In one case kerosene was sold in beer bottles and in another methylated spirits was sold in a bottle labelled "Gin".

Colour in Food: A complaint was received that a sample of black imitation caviar was so highly coloured that it coloured the mouth and tongue green. On analysis it was found that Patent Blue V, a non-permitted dyestuff was present in a concentration of 2·7 parts in 3,500. The permitted upper limit of any dyestuff is 1 part in 3,500.

A survey was carried out of imported kippered herrings, in view of information received from an interested manufacturer that synthetic colouring was essential to the appearance of this product. Three out of 5 samples were coloured with the synthetic dyestuff Brown FK, one with the vegetable dyestuff annatto, and one contained no colouring matter. There was no marked difference in appearance between any of the samples.

Canned Foods: A number of swollen cans of food was received. These included tins of anchovies, meat and vegetables, sardines. All contained excessive amounts of carbon dioxide, indicative of bacterial spoilage. A few tins of fish were found to be hydrogen swells.

A number of cans of ham from a suburban store were found to be swollen. The jelly had liquified and the top of the ham was green. No odour or other evidence of putrefaction was detected. These cans had been exposed to unrefrigerated conditions in the store for some time, although labelled to be stored under refrigeration.

Preservatives: Four samples of Japanese Soy sauce were found to contain benzoic acid. Previous samples had contained sorbic acid. Preservative is not allowed in soy sauce for sale in New South Wales, and soy sauce of Chinese origin does not contain any preservative.

Food Poisoning: A tube of condensed milk and coffee was submitted in connection with a case of acute gastritis. From the milk at the top of the tube approximately 3 grains of arsenic was obtained. Investigation showed that over a period of some months several other members of the staff where the victim was employed had suffered illnesses of a gastric nature. Suspicions were directed to a fellow employee. After questioning by police and before further action was taken, the suspect committed suicide.

Mustard: A sample of mustard, supplied under contract to the Government Stores Department was examined as it was alleged to be lacking in pungency. Organoleptic tests confirmed this lack of pungency and the sample was in fact stale. On analysis it was found to contain only one tenth of the amount of allyl isothiocyanate that was present in a comparable sample on open sale.

Mould Count in Tomato Products: Industrial laboratories repeatedly obtain lower mould counts on samples than are obtained in these laboratories. As this branch is undoubtedly more experienced in the procedure of mould counting than any other Australian laboratory, it was decided that it would be advisable if this laboratory's experience could be conveyed to industry. It is our opinion that low results are mainly the result of poor technique, and that with proper tuition analysts can obtain concordant and consistent results. Accordingly an article outlining this experience was forwarded to "Food Technology in Australia" for publication.

Crude Fibre in Bread: In collaboration with analysts employed by Government instrumentalities in other States, analyses for crude fibre content were carried out on a reference sample of bread. Reasonably consistent results were obtained by all analysts by the method used in Queensland, which is basically the method adopted by the Society of Public Analysts in the United Kingdom.

This laboratory's analysts also carried out the same determination by the A.O.A.C. method which has been in common use over many years in this Branch. Results varied considerably and were in general 40 per cent—80 per cent higher than those obtained by the Queensland method. As this variation in results between analysts is a new experience, an investigation was carried out in an attempt to ascertain the cause of the discrepancies without much success. It has been decided to carry out further work on the Queensland method with a view to its adoption, and further to examine a range of wholemeal flours and breads so as to be able to establish standards of crude fibre content in wholemeal flours and breads and in brown bread as determined by this method.

Food Bacteriology

Food Poisoning: Thirty-one samples of food were examined for evidence of food poisoning. Results were negative in all cases, due largely to the fact that the suspect food was rarely examined. A sample of food of the same type or from the same source was usually submitted for investigation. Procedure for the investigation of alleged outbreaks of food poisoning could be considerably improved. A flying squad of medical officer, bacteriologist and food inspector provided with adequate investigation equipment would be of considerable help in this regard.

Penicillin in Milk: Out of 34 samples of milk examined, 12 were found to contain penicillin in excess of 0.005 I.U. per ml.

Salmonella in Meat: Salmonellae were recovered from 8 out of 30 portions of raw meat obtained from shops where raw meat was sold in conjunction with cooked, ready to eat types of meat sausages and other foods. Eight serotypes were detected: *S. adelaide*, *S. bovis-morbificans*, *S. havana*, *S. neleagridis*, *S. give*, *S. muenchen*, and *S. derby*. Sometimes 2 or 3 serotypes occurred in the one sample, and the meats chiefly affected were mince meat, raw sausages and offal. Salmonellae were not detected in any of 105 samples of cooked ready to eat types of meat obtained from these shops. This does not however deny the potential danger of cross-contamination of cooked meats from the raw meats under these conditions of storage and sale, or the potential hazard to those customers who purchase cooked meats and consume them without further treatment.

Frozen Prawns: Examinations were carried out on a number of consignments of imported, frozen, cooked, peeled prawns. Results on 59 batches were as follows.

Total Plate Counts

- 11 less than 250,000 per gram.
- 10 greater than 250,000 and less than 500,000 per gram.
- 10 greater than 500,000 and less than 1,000,000 per gram.
- 17 greater than 1,000,000 per gram.
- 11 greater than 7,000,000 per gram.
- Maximum 70,000,000 per gram.

Faecal *E. coli*

- 6 greater than 2.4 less than 20 per gram.
- 9 greater than 20 per gram.
- Maximum 350 per gram.

No sample with a total plate count under 500,000 per gram had a faecal *E. coli* count over 20 per gram.

Salmonellae were not recovered from any sample.

Local fresh cooked prawns collected at the retail level gave the following results:

Total Plate Count

- 2 less than 100,000 per gram.
- 8 greater than 100,000 less than 1,000,000 per gram.
- 7 greater than 1,000,000 less than 10,000,000 per gram.
- 2 greater than 10,000,000 per gram.
- Maximum 540,000,000 per gram.

Faecal E. coli

13 less than 2 per gram.

4 greater than 2 and less than 20 per gram.

2 greater than 20 per gram.

Maximum 280 per gram.

The two high *E. coli* counts were associated with low total plate counts.

Local fresh cooked prawns collected at the wholesale level gave the following results:

Total Plate Count

6 less than 100,000 per gram.

13 greater than 100,000 less than 1,000,000 per gram.

2 greater than 1,000,000 less than 10,000,000 per gram.

1 greater than 10,000,000 per gram.

Maximum 100,000,000 per gram.

Faecal E. coli

15 less than 2 per gram.

22 greater than 2 and less than 20 per gram.

40 greater than 20 per gram.

Maximum 17 per gram.

Salmonellae were not recovered from any of the local prawns.

Methods for enumerating small numbers of coagulase positive staphylococci in prawns are unsatisfactory although Baird-Parkers (E.T.G.P.A.) Medium when used in conjunction with 10 per cent salt cooked meat medium made the detection of the organisms somewhat easier.

Staphylococcus aureus, when recovered from prawns, either imported or local, were usually below 100 per gram and were generally untypeable when subjected to phage typing.

PESTICIDES AND ADDITIVES LABORATORY

This Laboratory is at present restricted to one officer and severe limitations are placed on the output. As the work is of considerable complexity this is a great handicap. From time to time additional staff has to be seconded to this Laboratory to cope with a particular problem. The presence of a cadet Analyst during the University long vacation has proved of inestimable value.

The work was also restricted by the secondment of the Officer-in-Charge to the Criminal Investigation Laboratory during the illness of the Analyst normally carrying out this work. This is one of the disadvantages of one-man laboratories.

Pesticides: Considerable work was carried out on methods of extraction of pesticide residues and "clean-up" techniques which must be effective and thorough before identification and estimation of the minute quantities in which these substances are found in water and foodstuffs.

In one case specimens of bees were found to contain a lethal quantity of dieldrin. The same pesticide was found in substantial quantities in the viscera from some pedigree dogs.

Ice-Cream Adulteration: It was reported that a number of ice creams on the market contained fat other than butter fat. Advantage had been taken of a flaw in the new regulation covering ice cream. Classical methods for detection of adulteration of butterfat and the estimation of the percentage of adulterant are far from precise. Many published methods were investigated and finally two methods using gas chromatography were selected.

The first method uses a principle which was the basis of older methods which were not only most tedious, but also not very specific. The principle is that the unsaponifiable matter of animal fats contains cholesterol, whereas vegetable fats contain no cholesterol, but a mixture of phytosterols. Gas chromatography of the sterol acetates affords a rapid very precise method of detecting as little as 2 per cent vegetable fat in known admixtures with butter fat.

The second method, used in conjunction with the first, separates the methyl esters of the component fatty acids.

Before the methods can be used in legal proceedings however it will be necessary to analyse by these methods large numbers of fats from different sources to obtain data on which to interpret the results.

As work has progressed in this Laboratory it has become apparent that the Pesticide work and the Food Additives work will have to be separated for efficient operation. The work in each field is completely unrelated, and both require an extensive background knowledge.

DRUG LABORATORY

One hundred and twenty-one samples were received from the Government Stores Department and of these the following were not up to standard.

Aminophylline injection—contained excess ethylenediamine.

Urea—low assay and melting point.

Calcium gluconate—did not comply with B.P.

Mersalyl injection—3 samples with high pH.

Light Kaolin—contained coarse material.

Nine samples were received from the Food Inspection Branch. A sample of Cod Liver oil contained solid material apparently formed by polymerisation after prolonged and unsatisfactory storage.

A sample of Liver Salts had a foreign odour due to traces of phenolic material.

A Hair Dressing contained lead which was not declared on the label.

Two samples of a liquid alleged to cure cancer and arthritis were examined. Nothing was found to support these claims.

A plastic Santa Claus on widespread sale was found to be impregnated with nitrobenzene.

The Pharmacy Board submitted 10 pharmaceutical preparations in connection with the policing of the Poisons Act.

Miscellaneous samples included a plastic cement containing a high proportion of toluene. The use of this was alleged to have caused illness.

Deposits in samples of thiopentone sodium injection were found in one case to be due to traces of chlorpromazine and in another to breakdown products of thiopentone.

A sample of adhesive for false teeth contained borates and zinc. Though alleged to have caused illness the amounts present make this suggestion unlikely.

An antacid powder contained traces of a substance resembling dieldrin.

Specimens Submitted by Police Department: 4 samples of cannabis and two of heroin were identified, as well as specimens of phenmetrazine, amphetamine and methylamphetamine. Other samples submitted as possible addiction drugs, were found to contain barbiturates, sodium bicarbonate plus aspirin and phenacetin, quinine.

A rather peculiar specimen examined was a "fetish", used as a type of charm. It consisted of seeds, powder, flower petals, and a religious card sewn up in a bag of red material.

A number of suspected baits were examined, usually with negative results. One bait however consisted of hollow meat balls in the centre of which sodium carbonate and metallic particles of aluminium and copper were found.

Some alleged strychnine crystals were found to consist of borax.

TOXICOLOGY LABORATORY

A total of 667 cases were analysed during 1966. Of these 384 were submitted by the City Coroner, 98 by the Parramatta Coroner, 15 by the Canberra Coroner and 162 by Country Coroners.

As the City of Sydney is divided into two coronial districts with substantially equal populations, it is difficult to understand the seemingly low figure for the Parramatta Coroner. Also the total population of Country coronial districts is approximately equal to the population of the City and Parramatta coronial districts combined.

Even with the reduction of 88 cases as compared with last year the section is grossly overloaded. Much of the purely routine work which should be carried out by laboratory assistants has to be done by the analysts. This, combined with totally inadequate space, seriously impedes the vital investigational and developmental work and very adversely affects the morale of the professional staff. Nevertheless work has proceeded on the use of thin layer chromatography and the stage has been reached where the method has completely replaced the much slower, more cumbersome, paper chromatography.

During the year an effort was made to establish the validity of the HCl digestion procedure for the recovery of alkaloids and tranquillizers. To this end some comparative studies have been undertaken using both the classical Stas-Otto and the HCl digestion. Without exception the HCl digestion has yielded better recoveries and many compounds which could not be detected by the Stas-Otto procedure were recovered with good yield. A method for magnesium in blood was devised using the atomic adsorption spectrometer. This method has been extensively tested but great difficulty has been experienced in finding a suitable chemical procedure to permit comparative studies being carried out.

In an effort to reduce the professional staff's very irksome clerical routine, the clerical procedures in use were critically examined. Duplication was the key note of these procedures. New procedures have now been devised which completely eliminate duplication. These procedures involve the use of printed material and will be instituted in January 1967. It is expected that they will materially reduce the boredom of clerical work and thus improve efficiency.

There has been very little change in the popularity of the barbiturates. Of the 443 cases in which drugs were detected about 40 per cent contained barbiturates. Arsenic continued to grow in favour, there being some 21 cases against 14 for 1965. Metallic poisonings accounted for some 27 cases, the most unusual being a case of poisoning by gold cyanide, a perhaps unique occurrence. In one case L.S.D. was detected. However, the small amount of visceral material supplied prevented quantitation. Details of findings are included in Appendix IV.

Criminal Investigation

Exhibits in connection with 166 cases were examined for the Police Department.

Thirty-four of these were in connection with drugs and 52 in connection with charges of driving under the influence of alcohol.

The remaining 80 cases involving 300 exhibits were in connection with varying criminal charges. Details of these cases are listed in Appendix V.

Increased use of infra-red spectroscopy is being made for the identification and comparison of paints, plastics, fibres and solvents.

Government Stores Department

This section examined 161 samples, a considerable increase in the number of the previous year. These samples comprised 34 deodorants and disinfectants, 27 soaps, 22 detergents, 19 polishes, 19 writing inks, 8 ball point pens, 7 mopping powders, 5 lubricating oils, 4 aluminium cleansers, and 16 miscellaneous substances.

One hundred and five of these were samples submitted in relation to tenders and were all received within one month, and results were all required within a short deadline. Consequently work on these samples has to be drastically curtailed particularly as regards the detergents. Full analyses on these were not carried out. Quite often a considerable amount of experimental work has to be undertaken in connection with these samples.

This system of calling for tenders on all commodities at the same time creates an impossible situation for the Laboratory. If the tenders could be spaced out over the whole year, a much better service could be given to the Stores Department.

At the present time the greater part of the work of this section is carried out by a Laboratory Assistant. The time is not far off when the services of an Analyst will be required.

WATER AND WASTE WATER

Mr D. M. Robbins entered on duty as Officer-in-Charge in November. For eighteen months prior to this date, this position had been vacant. It is confidently anticipated that Mr Robbins' training and experience will be of great assistance to the Branch and the Department.

There has been a rapid turn-over rate in the semi-skilled staff of the section, only one non-graduate staff having more than one year's experience.

The available staff has been fully engaged and a system of priorities has again been used during the year in order to reduce the number of "less necessary" samples submitted for examination. The previously noted tendency for greater complexity in the work has continued, due to more awareness of pollution problems, continued industrialization of the State and increasing use of insecticides and economic poisons. This has resulted in a need to undertake time-consuming specific, non-routine determinations in increasing numbers.

Taste and Odour complaints in reticulated supplies have again increased during the year. An intensive field and laboratory investigation of the Tamworth Supply was undertaken, involving the source, Dungowan Dam and its tributaries and the reticulation, including the service reservoirs. Advice was tendered to Tamworth City Council and it was agreed to undertake regular monthly examinations of samples taken from the source and the reticulation for algal content. Other water supply authorities have since requested similar surveys and similar regular algal examinations.

Arising from the work on Taste and Odour control, it has become evident that algal problems are likely to arise wherever phosphates gain entry to water supply catchments. The two main sources of phosphate this State are run-off from land areas which have been treated with superphosphate and sewage treatment effluents. The sources of phosphate in sewage effluent are detergent formulations and human wastes. It seems inescapable that unless phosphates can be excluded from catchment areas, water supply authorities will have to spend time and money in control of algal growths. The section will therefore be called on for much more work in this field.

Remarkably few service reservoirs in reticulated water supply schemes in this State are covered. It is increasingly apparent from bacteriological and algal examinations that this contributes in a large measure to reticulated water quality problems in most supplies. This Department should have a positive policy of requiring all new service reservoirs to be covered before being put into service and should actively encourage the progressive covering of existing service reservoirs, commencing with those at most risk, such as those adjacent to highways, stock routes and stockyards.

Pressure for a minimum standard for public water supplies continues in this State and in Australia as a whole. A workable minimum standard is most desirable but the implementation of such a standard will inevitably increase the work of this Section. With lamentably few exceptions the number of laboratory examinations of water from any one supply in this State is quite inadequate to assess compliance with any reasonable standard.

Work associated with the pollution of watercourses continues to increase in both quantity and complexity. New industries are being established throughout the State and existing industries expanded. Almost invariably waste disposal problems are initially ignored or given inadequate thought. Under the Local Government Act, septic tank applications must be submitted to this Department for approval. Some provision requiring commercial and industrial undertakings to obtain similar approval to discharge effluents, other than to a sewer leading to an adequate treatment works, prior to a building permit being granted, should be investigated.

WATER FLUORIDATION

Fluoridation of Public Water Supplies continues to progress in this State. Additional plants at Nyngan, Wellington and Manilla were commissioned during the year, bringing the number of centres now fluoridating to 16 and the population served to more than 163,000.

The highlight of the year was the approval of 14 plants for the fluoridation of water supplies under the control of the Metropolitan Water, Sewerage and Drainage Board. This brings the number of plants approved but not yet commissioned to 22.

Two schools for training operators and others associated with the running of fluoridation plants were held. Twenty eight candidates successfully completed the courses making a total of 154 persons now trained.

Commissioning, supervision of plants and advice on fluoridation necessitated visiting 21 centres during the year. The additional staff requested has not been appointed and the Officer in charge of the section is carrying an excessive work load.

APPENDIX I—MILK SAMPLES

District of Collection	Year	No. of Milk Samples Collected	Deficiency in Milk Fat		Containing Added Water		Deficiency in Pasteurization Phosphatase Test		Total Adulteration	
			No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Metropolitan Area ..	1964	3658	33	0.90	50	1.37	..	..	83	2.27
	1965	4130	40	0.97	110	2.66	1	0.02	151	3.66
	1966	4463	39	0.88	88	1.97	1	0.02	128	2.87
Country Districts ..	1964	980	64	6.51	63	6.44	..	..	127	12.95
	1965	1430	113	7.95	107	7.55	2	0.14	222	15.65
	1966	1045	53	5.07	66	6.31	11	1.05	130	12.42
Milk Board ..	1964	5592	56	1.00	90	1.61	..	..	146	2.61
	1965	6006	60	1.00	187	3.11	18	0.30	265	4.41
	1966	6494	82	1.26	220	3.40	33	0.51	335	5.16
Total	1964	10230	153	1.50	203	1.99	..	..	356	3.49
	1965	11556	213	1.85	404	3.50	21	0.18	638	5.52
	1966	12002	174	1.45	374	3.12	45	0.38	593	4.94

APPENDIX II—COLLABORATIVE STUDY ON METHODS OF DETERMINATION OF FREEZING POINTS OF MILK.

Following upon the introduction into the Laboratory of a Fiske Cryoscope, it was decided to carry out comparative tests on the Freezing Point of milk samples as determined by the Fiske and the modified Hortvet Cryoscopes. The Laboratory of a leading milk processing company collaborated in these tests.

Study A. In this study 5 samples of milk were submitted to test. Laboratories A and B carried out determinations using Hortvet cryoscopes provided with mechanically refrigerated cooling baths. Laboratory C carried out determinations using a similar Hortvet cryoscope and also using a Fiske cryoscope. The Fiske cryoscope is a semi-automatic instrument.

Agreement between Laboratories and between instruments was extremely good. Results are shown below.

Sample	Laboratory freezing point			Acidity (ml. N/10 NaOH per 10 ml. milk)	Fat per cent	S.N.F. per cent (calc)
	Cryoscope		°C			
No. 1 (Raw)	A	Hortvet	−0.540	1.5		
	B	Hortvet	−0.538	1.4	3.9	8.58
	C	Hortvet	−0.538	1.4	4.0	8.62
	C	Fiske	−0.539			
No. 2 (Pasteurized)	A	Hortvet	−0.538	1.5		
	B	Hortvet	−0.537	1.4	3.9	8.58
	C	Hortvet	−0.535	1.5	4.0	8.54
	C	Fiske	−0.535			
No. 3 (Pasteurized)	A	Hortvet	−0.532	1.5		
	B	Hortvet	−0.532	1.4	4.2	8.57
	C	Hortvet	−0.532	1.5	4.4	8.55
	C	Fiske	−0.531			
No. 4 (Raw)	A	Hortvet	−0.541	1.5		
	B	Hortvet	−0.540	1.5	4.3	8.95
	C	Hortvet	−0.540	1.5	4.3	8.83
	C	Fiske	−0.540			
No. 5 (Homogenized)	A	Hortvet	−0.533	1.4		
	B	Hortvet	−0.534	1.4	3.9	8.57
	C	Hortvet	−0.534	1.4	4.0	8.58
	C	Fiske	−0.534			

The freezing point determinations were carried out independently by trained operators and the results are the average of three determinations. Fat and S.N.F. (calc.) results are also included as a matter of interest.

Further collaborative determinations were carried out on 5 samples to which varying quantities of water had been added. Results are shown below.

Laboratory	Cryoscope	Percentage Water Added	Freezing Point °C (Theoretical)*	Freezing Point °C (as determined)
A	Hortvet	....		−0.531
B	Hortvet	0	.....	−0.533
C	Hortvet	....	.....	−0.530
A	Hortvet	....	−0.526	−0.526
B	Hortvet	1	−0.528	−0.528
C	Hortvet	....	−0.525	−0.523
A	Hortvet	....	−0.518	−0.518
B	Hortvet	2.5	−0.520	−0.520
C	Hortvet	....	−0.517	−0.517
A	Hortvet	....	−0.513	−0.511
B	Hortvet	3.5	−0.514	−0.510
C	Hortvet	....	−0.512	−0.511
A	Hortvet	....	−0.502	−0.501
B	Hortvet	5.5	−0.504	−0.502
C	Hortvet	....	−0.501	−0.495

* Calculated for each laboratory on the freezing point as determined on the sample with no added water.

APPENDIX III—MEAT SAMPLES

[illegible]

APPENDIX IV—RESULTS OF VISCERAL EXAMINATIONS.

Nature of Drug	Number of cases in which found
No poisons	216
Ethyl alcohol—	
0 mg. per 100 ml	260
1—49 mg per 100 ml	65
50—149 mg per 100 ml	93
150—299 mg per 100 ml	76
over 300 mg per 100 ml	13
Carbon Monoxide	10
Blood Chlorides (Suspected drowning)	6
Barbiturates—	
Amylobarbitone	77 cases (including 10 Tuinals)
Butobarbitone	13 cases
Butabarbitone	2 cases
Pentobarbitone	227 cases (including 79 Carbritals)
Phenobarbitone	11 cases
Quinalbarbitone	30 cases (including 10 Tuinals)
Talbutal	1 case
Thiopentone	1 case
Brominated Ureides	103 cases (including 79 Carbritals)
Glutethimide	1 case
Phenytoin	1 case
Methyl hydantoin	1 case
Phenacetin	14 cases
Salicylic Acid	15 cases
Chloral	11 cases
Alkaloids and related compounds—	
Strychnine	5 cases
Quinidine	1 case
Pethidine	1 case
Nicotine	1 case
Amphetamine	1 case
Tranquilizers—	
Amitriptyline	4 cases
Chlordiazepoxide	2 cases
Thioridazine	3 cases
Chlorpromazine	3 cases
Meprobamate	2 cases
Methaqualone	1 case
Nortriptylene	1 case
Metals—	
Arsenic	21 cases
Arsenic and Antimony	1 case
Mercury	1 case
Thallium	1 case
Zinc	1 case
Gold	1 case
Chromium	1 case
Lead	1 case
Magnesium	2 cases
Phenols—	
Cresol	2 cases
Thymol	1 case
Ethylene dichloride	1 case
4, 6 dinitro-o-cresol	1 case
“Meta-Systox”	1 case
Dieldrin	1 case
Lysergic acid diethylamide (L.S.D.)	1 case

APPENDIX V.—EXHIBITS SUBMITTED IN RELATION TO CRIMINAL INVESTIGATION.

Type of Exhibit	No. of Exhibits	Criminal Charge
Paint	125	manslaughter, arson, grievous bodily harm and culpable driving.
Inflammable liquids	38	arson, death, grievous bodily harm, suspicious fires.
Metals	44	break enter and steal, false pretences and bullets.
Fibres	14	death, break enter and steal.
Corrosive Materials	15	bodily injuries, damage to clothing.
Glass	13	death, break enter and steal.
Greases	9	arson, death, rape.
Miscellaneous	42	

Division of Forensic Medicine—Government Medical Officer for Sydney
STAFF.

Director, Division of Forensic Medicine and Government Medical Officer; Dr JOHN LAING, M.B., B.S., M.C.P.A.

Medico-Legal Section: Four Medical Officers, nine Morgue Assistants.

Medico-Legal Laboratory: One Medical Officer, one Microbiologist, three Laboratory Assistants-in-Training, one part time Trainee Laboratory Assistant, two Laboratory Attendants, three Office Assistants and one Office Assistant part time.

ACTIVITIES.

1. Medico-Legal Section.

This section performs autopsies upon all bodies coming under the jurisdiction of the City Coroner. It works in close co-operation with Metropolitan Police Force and is available to visit scenes of crime when requested. It undertakes post graduate training and demonstrations in forensic matters to interested medical practitioners. The section undertakes the medical investigation of all aircraft fatalities in New South Wales on behalf of the Department of Civil Aviation and the Royal Australian Air Force, visiting the scene of the accident wherever it may be and performing the requisite autopsies. It gives advice and assistance to Country Coroners and Medical Practitioners throughout the State. The section also undertakes the examination of criminal assault for the Police Department. The Medical Staff is required to give evidence in various Courts in connection with this work.

The above services are available day and night all the year round.

Table I gives a comparison of the activities for the years 1965 and 1966.

TABLE I

	Year ending 31st December, 1965	Year ending 31st December, 1966
Autopsies for City and Country Coroners (including week-ends)	2,446	2,507
Examination of Criminal Assault Cases	140	142

The number of necropsies shows the same gradual increase that is experienced annually. The number of criminal assault cases remains within comparable limits.

2. Medico-Legal Laboratory

The Laboratory provides pathological and biological services to assist in the investigation of crimes and in the determination of causes of death in cases for various Coroners. The work included histopathology, the grouping of blood and secretions, the investigation of blood stains and seminal stains and the examination of hairs and fibres. These services are available for both Metropolitan and Country cases.

A detailed analysis of the specimens submitted and the number of examinations performed is given in Tables II and III.

It will be noticed that Table II compares the activities of the first six months of 1966 with the first six months of 1965. In July, 1966, the method of recording statistics was altered slightly to present a clearer picture of the utilization of the Medico-Legal Laboratory's facilities, so that the figures given in Table III for the last six months of 1965 and 1966 are not strictly comparable.

In the period 1st July to 31st December, 1966, mainly due to a detailed survey of infant "Cot Deaths", the following material from City Morgue autopsies was submitted to The Institute of Clinical Pathology and Medical Research for further investigation:

Bacteriology	Virology
41	27

From these tables it will be seen that the total numbers of the different categories of investigations have risen when compared against the total for 1965 and in the case of histopathological examinations the increase is very marked. This in part is due to our continued efforts to increase the standard of forensic practice in the Country Districts of New South Wales, but mainly due to the fact that five morbid anatomists are now performing microscopic examination on material obtained from their own autopsies in the City Morgue as against former years when all the material passed through the hands of one histopathologist. In addition, increases in the numbers of laboratory technical staff have enabled us to ease the restrictions of former years on the amount of material that can be processed in the Medico-Legal Laboratory.

SPECIAL FEATURES OF THE YEAR'S ACTIVITIES

Amongst the routine cases of the year there have been several interesting investigations, the most complex one being where the Division's services were requested by a country area to investigate a dwelling place fire in which an entire family of six people perished. From a detailed study of the ashes and small charred remains, the presence, identity, and ages of the six persons who were rightly thought to be in the dwelling at the time of the fire were established. A second case was the investigation of a helicopter crash in the Circular Quay area of Sydney. This was an unusual occurrence, involving the deaths of three people and one which could have easily led to a much larger disaster.

During the year two aircraft accidents were investigated in conjunction with the Department of Civil Aviation resulting in the performance of four autopsies.

The teaching of Forensic Medicine is continuing. Lectures and demonstrations have been given throughout the year to Hospital staffs and professional bodies including a series of introductory lectures to the final year Medical Students of the University of New South Wales. Two papers on Aviation and other traumatic pathology were presented by the Director at the International Meeting on Aerospace Medicine held during November, 1966. This event led to the exchange of views and opinions with many prominent workers in similar fields from the major overseas countries.

During the year, the Division received a visit from Dr H. A. Shapiro, the editor of the South African Journal of Forensic Medicine, who imparted much interesting information concerning the forensic methods of his country.

Finally, following the acquisition in 1964, of a block of land in Camperdown, opposite the University of Sydney, as a proposed site for a new City Morgue and Coroners' Courts numerous conferences have been held with officers of the Treasury, the Public Works Department, Health Department and Justice Department.

Preliminary drawings have been prepared and it is hoped that the end result will be the provision of adequate facilities and accommodation, not only for the ever-growing routine forensic procedures but will also provide space to cope with a major disaster. The inevitability of this latter event and the present facilities available to deal with it are a matter of great concern to the officers who will be involved.

TABLE II.—ACTIVITIES OF THE MEDICO-LEGAL LABORATORY 1ST JANUARY, 1966 TO 30TH JUNE, 1966

	Number of specimens submitted					Number of tests performed				
	Police	Morgue	Misc.	As at 30-6-65	As at 30-6-66	Police	Morgue	Misc.	As at 30-6-65	As at 30-6-66
Whole blood for grouping	23	50	..	73	73	79	41	..	226	120
Garments, weapons, etc. for grouping of blood stains and determination of origin of blood	225	56	2	178	283	437	14	4	312	455
Vaginal smears for spermatozoa	25	26	3	33	54	25	28	..	33	53
Garments, etc. for the detection of seminal stains	142	..	3	138	145	177	..	4	132	181
Specimens of hair ..	97	73	..	44	170	789	45	..	273	834
Post-mortem tissues for histopathological examination	323	3,988	..	1,328	4,311	447	4,589	..	1,850	5,036
Total ..	835	4,193	8	1,794	5,036	1,954	4,717	8	2,826	6,679

TABLE III.—ACTIVITIES OF THE MEDICO-LEGAL LABORATORY 1ST JANUARY, 1966 TO 30TH JUNE, 1966

	Number of specimens submitted			Number of tests performed		
	Police	Morgue	Total as at 31-12-66	Police	Morgue	Total as at 31-12-66
Whole blood for grouping ..	15	7	22	66	16	82
Garments, weapons etc. for grouping of blood stains and determination of origin of blood	198	3	201	378	3	381
Vaginal smears for spermatozoa	40	13	73	42	13	55
Garments etc. for the detection of seminal stains	185	9	194	246	9	255
Specimens of hair	112	5	117	867	1	868

				Number of slides prepared		
	Other morgues	City morgue	Total as at 31-12-66	Other morgues	City morgue	Total as at 31-12-66
Number of autopsies for which histopathological examination was requested	63	533	596	449	3,908	4,357

Division of Occupational Health

Acting Director: DR ERIC LONGLEY, M.B., B.S.

Location: 86-88 George Street North, Sydney

FUNCTION

The Division now comprises three Branches, namely:

- (i) The Radiation Branch (formed in 1959), which administers the Radioactive Substances Act.
- (ii) The Air Pollution Control Branch (formed in 1960), which administers the Clean Air Act, and
- (iii) The Industrial Hygiene Branch (formed in January, 1966) which is concerned with evaluation of working conditions, toxicology, agricultural health, noise, personal protective equipment and ergonomics. This Branch administers no Act.

In addition, there is a medical staff for evaluation of occupational diseases and provision of specialized medical advisory service, and an Adviser in Occupational Health Nursing.

Finally, the clerical staff serves all sections of the organization.

OFFICE AND LABORATORY ACCOMMODATION

The Division will move to the new Scientific Laboratories and Offices at Lidcombe on completion. Completion date is thought to be November, 1967.

STAFF

The Director, Dr Alan Bell, departed on 14th June, 1966, to take up a two-year appointment as Chief Medical Officer, Social and Occupational Health Unit, World Health Organization, Geneva. Dr E. O. Longley was appointed as Acting Director. Dr R. Barnes was appointed as Medical Officer on 5th August, 1966.

Dr Vasak joined the Division on 7th November, from the Prague Institute, Czechoslovakia, to work in the Air Pollution Control Branch.

Dr J. L. Sullivan attended the International Clean Air Congress in London, and visited Taiwan as WHO Consultant to advise on an Air Pollution Programme.

Mr G. R. Simpson attended the XVth International Congress on Occupational Health in Vienna, and the IIIrd International Congress on Rural Medicine, in Bratislava.

Mr R. P. Murphy attended the New Zealand Wood Waste Conference.

Mr A. T. Jones was appointed as Officer-in-Charge of the newly formed Industrial Hygiene Branch.

The authorized strength of the Division is now 62 compared with 60 in 1965.

REPRESENTATION ON COMMITTEES

During 1966, the Department was represented on 43 Committees or Sub-Committees. New representations were as follows:

- (1) The Council of the Clean Air Society of Australia and New Zealand (Dr Cleary), (2) Standards Association of Australia (a) (i) Human Factors SF/21 Working Group (Mr R. Welch and Mr J. G. Allen), (ii) Anthropometric Survey (Mr R. Welch), (b) Eye Protection Committee (Mr J. G. Hughes), (c) Refrigeration Committee (Mr J. G. Hughes).

STATISTICAL DATA

Some of the Division's main activities are summarized and classified into several broad categories:

Type of Activity	Number of Examinations		
	1964	1965	1966
1. Medical and Paramedical—			
(i) Blood slides examined for evidence of lead poisoning—			
(a) Sent in by factory doctors	3,684	3,811	4,302
(b) Slides of patients seen at the Division	349	381	229
(ii) Number of pathological tests carried out by the Division ..	3,075	3,769	3,350
(iii) Number of Persons examined—			
(a) Medical examinations (768)	1,148	1,096	2,389
(b) Cholinesterase field tests (170)			
(c) Vision screening (103)			
(d) Anthropometric (838)			
(e) Work Physiology Tests (50)			
(f) Ergometry (460)			
Type of Activity	Number of Examinations		
	1964	1965	1966
2. Scientific—			
(i) Number of "Industrial Health" visits	1,203	1,329	1,562
(ii) Number of Halls and Theatres inspected	9	6	7
(iii) Number of "Radiation" visits	733	927	1,282
(iv) Number of "Air Pollution" visits	2,573	3,456	4,559

The large number of "Industrial Health" visits was made up as follows:

Visits by Medical Officers	161
Visits by Adviser, Occupational Health Nursing	101
Visits by Scientific Officers, Industrial Hygiene Branch	1,300
Visits by Scientific Officers, Industrial Hygiene Branch	1,300

Visits by the Scientific Officers of the Industrial Hygiene Branch were as follows:

Activity	Number of Visits
Agricultural Health—Farms, etc. (127) Pesticide Factories (68). Cotton Industries (13) Anhydrous Ammonia Installations (12).	220
Noise Laboratory—Industrial Situations and occupations such as clerical, dental, etc. (109). Residential (99). Miscellaneous, Police Sirens, etc. (2).	210
Personal Protective Equipment Laboratory	10
Ergonomics—Work Physiology, Work Layout, Seating, Thermal Environment, Tenosynovitis (169). Psychological Factors, Visual and Inspection Problems, Controls Design, Educational (87). Human Kinetics, Manual Handling (144). Ergometry (39).	439
In-Plant Toxicology—Dust Hazards (164). Lead (39). Gases (22). Solvents (32). Welding (12). Mercury (9). Ventilation (10).	421
Miscellaneous, including metals, vapours, fumes, acids, alkalis, oils, tar fumes, chemicals, paints, and synthetic resins of various types (123).	

EDUCATIONAL ACTIVITIES

1. Thirty-two articles have been published including twelve in overseas technical journals, etc., viz:

- (1) "Mercury in a Jewellery Moulding Process". *A.M.A. Archives of Environmental Health*, December 12, 1966, Vol. 13, No 6. (Mr A. T. Jones and Dr E. O. Longley).
- (2) "Fibreglass Conjunctivitis and Keratitis". *A.M.A. Archives of Environmental Health*, December 12, 1966, Vol. 13, No 6. (Dr E. O. Longley and Mr R. C. Jones).
- (3) "A Note on Methyl Bromide". *A.M.A. Archives of Environmental Health*, November, 1966, Vol. 13, No 673. (Mr G. R. Simpson).
- (4) "Headaches in Explosive Magazine Workers". *A.M.A. Archives of Environmental Health*, February, 1966, Vol. 12, pp. 231-4. (Dr D. C. Trainor, M.B., ChM., F.R.S.C.E. F.R.A.C.S., and Mr R. C. Jones).
- (5) "Polycyclic Hydrocarbon Ratios; Their Use in Studying the Sequence of Combustion in a Hand-Fired Intermittent Brick Kiln". *Proceedings of the International Clean Air Conference*, London, pp. 111-114. (Dr G. Cleary).
- (6) "Air Pollution in Australia". *Proceedings of the International Clean Air Congress*, London, p. 144 et seq. (Dr J. L. Sullivan).
- (7) "The Control of Fume from a Hot Blast Cupola by High Energy Scrubbing Without Appreciable Thermal Buoyancy Loss". *Proceedings of the International Clean Air Congress*, London, p. 144 et seq. (Dr J. L. Sullivan and Mr R. P. Murphy).
- (8) "The Measurement and Control of Emissions from Wood Waste Fired Boilers and Incinerators." *Proceedings of the New Zealand Conference on Burning of Wood Waste*. March, 1966. (Mr R. P. Murphy).
- (9) "Toxicological Problems in Agriculture in New South Wales". *Proceedings of IIIrd International Congress on Rural Medicine*, Bratislava. (Mr G. R. Simpson).
- (10) "Occupational Health Problems in Australia". *Proceedings of the XVth International Congress on Occupational Health*, Vienna. (Mr G. R. Simpson).
- (11) "Noise: An Occupational Hazard and Public Nuisance". *Public Health Report*, Prepared at the request of WHO by the Director, Dr Alan Bell.
- (12) "Aerobic Capacity and Physiological Fitness of Australian Men". *Ergonomics* (1966). Vol. 9, No 6, pp. 485-94. (Mr J. G. Allen).

and 2 Departmental Publications—

- (i) "*Industrial Dermatitis*". (Dr E. O. Longley).
- (ii) "*Atomic Radiation and Its Effects on Health*", 2nd Edition, revised 1966. (Dr D. C. Trainor).

In addition to the above, Dr D. C. Trainor has written a book "*Handbook of Industrial Toxicology*", (153 pages) published in May, 1966, by Angus and Robertson Ltd, Sydney.

Also, submitted and accepted for early publication, were a further twenty-two articles, including four in overseas technical journals, etc., and eighteen in local journals.

Mr S. Himbury was commissioned by the International Labour Office, Geneva, to write a treatise "Kinetic Methods of Manual Handling in Industry". Thirty foolscap pages with 18 illustrations, for publication in January, 1967.

II. Papers Delivered by Official Delegates At Congresses, Conferences, Conventions and Symposia.

(A) Overseas

Six Papers were delivered at 4 Overseas Conferences (listed under publications).

(B) Local

- (1) The Third Australian and New Zealand Ergonomics Conference, August, 1966, Sydney.
 - (a) "Introducing Ergonomics to Industry". (Dr E. O. Longley).
 - (b) "An Anthropometric Survey of Australian Male Facial Sizes". (Mr J. G. Hughes and Mr O. Lomaev).
 - (c) "Ergonomic Design of Domestic Appliances". (Mr R. Welch).
 - (d) "Standardization of Controls In Industry". (Mr J. G. Allen).
- (2) The Tenth New South Wales Industrial Safety Convention.
 - (a) "Occupational Health in Czechoslovakia". (Dr V. Vasak).
 - (b) "Industrial Noise in Residential Areas". (Mr H. R. Weston).
 - (c) "Safety In Hospitals". (Mr S. Himbury).
 - (d) "Health Hazards of New Welding Processes". (Dr E. O. Longley).
 - (e) "The Work of An Industrial Hygienist In Ensuring Safe Working Conditions". (Dr E. O. Longley).
 - (f) "Modern Pesticides". (Mr G. R. Simpson).
 - (g) "The Role of the Division of Occupational Health in Personal Protective Equipment". (Mr G. J. Hughes).
- (3) The New South Wales Steel Industry Safety Convention.
 - (a) "Heat Stress". (Dr R. Barnes).
 - (b) "Physiological Aspects of Ergonomics". (Mr R. Welch).
 - (c) "Physiological Aspects of Ergonomics and Safety". (Mr J. G. Allen).
 - (d) "Industrial Noise". (Mr H. R. Weston).
- (4) The Royal Australian Chemical Institute Conference, Mount Buffalo, Victoria.
 - (a) "The Estimation of Volatile Trace Constituents in the Atmosphere by Modern Instrumental Techniques". (Mr D. Palmer).
 - (b) "The Analysis of Polycyclic Aromatic Hydrocarbons in Urban Atmospheres". (Dr G. Cleary).
- (5) The Interstate Conference of Officers Working on Air Pollution, Melbourne.
 - (a) "Types of Automatic Air Pollution Monitors as Used by the N.S.W. Health Department". (Mr D. Palmer).
 - (b) "Ramifications of the N.S.W. Clean Air Act". (Dr G. Cleary).
 - (c) "Organic Air Impurities". (Dr G. Cleary).
 - (d) "Air Pollution From Foundries". (Dr G. Cleary).
 - (e) "Air Pollution Problems Associated With Sulphuric Acid and Fertilizer Manufacture". (Dr G. Cleary).
- (6) The Australian Institute of Management Conference on Noise, Sydney.
 - "Hearing Conservation In Industry". (Mr H. R. Weston).
 - "Noise Control and Ear Protection". (Mr H. R. Weston).
- (7) Australian Acoustical Society.
 - "Hearing Conservation In Industry". (Mr H. R. Weston).
- (8) Symposium For Orchardists, University of New England.
 - "Toxicology of Insecticides—Precautions For Use". (Mr A. T. Jones).
- (9) Radio-Medical School of the Air.
 - "Occupational Health". (Dr E. O. Longley).

III. Lectures.

In addition to the above 33 addresses, Officers of the Division delivered 246 lectures to a varied audience, viz:

University, Technical College, or School Students	..	..	..	..	96
Nurses (Occupational or Public Health, In Service, etc.)		..	..	..	54
Factory Inspectors	..	..	..	..	31
Ergonomics Seminars		..	..	..	20
Miscellaneous	..	..	..	..	45

MEDICAL REPORT

During 1966 more employees were examined at their place of work. Four hundred and ten patients were examined at 86-88 George Street North. There were 539 consultations.

Examinations which were carried out at the Division's Headquarters are summarized below:

Hazard	Number of Patients
Lead	114
Ionising Radiation	60
Aromatic Hydrocarbons	34
Chlorinated Hydrocarbons	39
Silica	33
Organic Phosphorus	23
Other Pesticides, Weedicides, etc.	41
Arsenic	17
Occupational Dermatoses	12
Warfarin	6
Mercury	6
Methyl Bromide	5
Vibration	2
Carbon Monoxide	5
Welding Fumes	3
Allergens	2
Diving	2
Electroplating	1
Referred from Medical Examination Centre	5

Thirty-nine patients were referred to 697 George Street for chest X-rays, and five to dermatologists.

Diagnoses of Occupational ill-health were as follows:

Diagnosis	Number of Cases
Anaemia	4
Arsenic Absorption	4
Benzol Intoxication	1
Cadmium Poisoning	2
Carbon Tetrachloride Poisoning	7
Lead Poisoning	4
Lead Absorption	22
Mercury Intoxication	1
Dermatitis	14
Organic Phosphorus Poisoning	2
Radiation Effects	1
Silicosis	3
Trichlorethylene Intoxication	2
Warfarin Absorption	3

Bladder Carcinogens

Deaths of rubber workers overseas due to cancer of the bladder led to a survey into the use of carcinogenic rubber antioxidants, such as Alpha and Beta Naphthylamine and Benzidine. Investigations showed that some carcinogens may have been used in New South Wales prior to 1950, but that none were imported from that date and it is considered extremely unlikely that any were used at all after 1955.

It was therefore decided to examine all men in the rubber or allied trades who might have been exposed to carcinogens prior to 1955. A questionnaire was completed during a personal interview and later a cytological examination was carried out by Dr Withers of The Institute of Clinical Pathology, Lidcombe. In all 42 men were examined on two occasions at an interval of four months. No clinical or cytological evidence of carcinoma of the bladder was found.

Nitroglycerine and Ethylene Glycol-Di-Nitrate

A survey was carried out on a number of men exposed to the inhalation of these materials. The symptomatic effects and blood pressure changes were observed after inhalation of various concentrations. Results indicated that both subjective and objective effects occur at atmospheric concentrations much below the maximum allowable concentration currently accepted. As a result of this work consideration is being given to reducing the maximum allowable concentration to approximately one-third the present value.

OCCUPATIONAL HEALTH NURSING

General

Miss E. G. Roach, Adviser—Occupational Health Nursing, had an extremely busy year. In the field for the first time there is a demand for qualified Occupational Health Sisters which exceeds the number available. The Occupational Health Nursing Certificate Course at the New South Wales College of Nursing was held again this year and eight Sisters completed the Course successfully.

Some difficulties were experienced in 1966 in the organization of the Occupational Health Nursing Certificate Course as there is still no member on the staff of the New South Wales College of Nursing who holds an Occupational Health Nursing Certificate.

A study evening was arranged in September for the Newcastle area. This was urgently necessary due to the fact that at the July "Refresher Session" not one Sister from the Newcastle area attended. The Study Evening was a most successful meeting.

Refresher Sessions

The Refresher Sessions this year have been outstandingly successful. The March meeting was opened by the Minister for Health, the Hon. A. H. Jago, M.L.A. The July Session by the Director General of Public Health, Dr C. J. Cummins, and the November Session by Dr Edgar Thompson, General Superintendent and Chief Executive Officer of the Royal Prince Alfred Hospital and Secretary Elect of the Australian Medical Association. The wide coverage offered by the speakers in the November Session marked it as one of outstanding success.

Preparation for Retirement

In May a meeting was held of Sisters and Lecturers who participated in the "Preparation for Retirement" series of lectures held in 1965, to evaluate the benefit derived from these lectures and to discuss the day to day use of material then presented and used over the ensuing months. This was, in the opinion of Dr Sax, Director of Geriatrics, a most encouraging and worthwhile meeting. It was decided to incorporate the lectures given in the booklet to be sponsored by the Old Peoples Welfare Council for purchase by industry and the public generally. Dr Sax, Mrs Mophlet and Miss Roach completed this project, and the booklet has sold very well.

Health Education

The Director of Health Education held three lecture discussions on the problem of the Occupational Health Sister in her role of educator.

Scholarships

The Occupational Health Sisters' Association of New South Wales and the Australian Capital Territory again donated two Scholarships, and the New South Wales Nurses' Registration Board gave one. The New South Wales Nurses' Association this year gave two Scholarships for the first time contributing to the Occupational Health Nursing Course.

Unfortunately, it was not possible for the Department to allocate funds for Scholarships.

Public Relations

A three day programme for students doing the full-time Occupational Health Nursing Certificate Course at the N.S.W. College of Nursing was planned by the Adviser—Occupational Health Nursing and carried out. All senior personnel of the Division lectured on their relevant work and practical demonstrations were given. It is hoped that this instruction period at the Division may be extended to four days in 1967.

Overseas Nursing Visitors

A day was spent by the Adviser in Occupational Health Nursing with each of 2 overseas visitors and part of one day with 1 English Churchill Scholarship winner.

The Sister appointed to the Queensland Alumina Company was sent down from Gladstone Queensland, to spend one day with our Adviser for instruction.

Lectures Given

Seventeen lectures were given during the year. These included— “What the Factory Inspector Needs to Know of the Occupational Health Nursing Service within Industry”, “Speaking the Same Language” (21st Refresher Session), “Automation, The Space Age, and the Occupational Health Nurse” (22nd Refresher Session), “Occupational Health Nursing Liaison” (Newcastle), “Occupational Health Nursing” (Inservice Public Health Sisters), “The Role of the Occupational Health Sister” and “The Acceptance of Occupational Health Nursing and Attitudes” (Inservice Public Health Sisters) and 8 Tutorial Lectures at College of Nursing (Students doing Occupational Health Nursing Certificate Three Months Full-Time Course.)

The Adviser in Occupational Health Nursing attended 2 instruction courses organized by the Division’s Ergonomics Group and the N.S.W. Safety Covention. She also attended the Third Australian and New Zealand Ergonomics Conference, paying her own registration fee.

N.S.W. Bush Nursing Association

During the last 4 months of the year 6 Bush Nurses have had individual programmes arranged for them.

Committees and Organizations to Which Time was Given

The Division’s Adviser in Occupational Health Nursing, Miss E. G. Roach, was again re-elected as President of the Occupational Health Sisters’ Association of New South Wales and the Australian Capital Territory for a further term.

Liaison

Continuous liaison should be possible between the Division and the three hundred or so trained nurses in industry, but even annual visits to each nurse cannot be managed due to staff shortage.

Summary of Field Work

This includes all visits of a general, educational or liaison nature.

Visits to Factories

Metropolitan—

Initial visits were made to	..	..	3 Factories and 9 trained Nurses, 1 First Aider
Follow up visits were made to	..	..	18 Factories and 11 Sisters
Visits in relation to education, staff systems planning and liaison.	..	..	74

Country—

Initial visits to	..	..	..	1 Factory and 2 trained Nurses
Follow up visits to	..	..	..	5 Factories and 5 trained Nurses, 1 First Aider.
Total visits	..	..	..	27 Factories and 27 Sisters, 74 Liaison visits, 2 First Aiders.

Staffing

Occupational Health Nursing staffing problem is even more acute than in 1965. The Adviser in Occupational Health Nursing is receiving an unprecedented number of requests from Sisters in the field to give them advice and this can be most time consuming.

It is hoped that in the near future it will be possible to increase the Occupational Health Nursing Advisory staff so that an adequate coverage of all 300 nurses in the industrial field may be carried out.

Finance

The concept of the Occupational Health Nurse as a professional member of a health team is worthy of greater acceptance.

Acceptance of this concept will necessarily be slow and it is unrealistic to assume at this stage that general acceptance will come from industry itself without a good “shove” from the outside.

For this reason, it is thought that further consideration of the possibility of providing Scholarships for the Occupational Health Nursing Certificate Course should be given in addition to the provision of extra staff.

Legislation

At present there is no legislation which compels an industry to employ a trained nurse. The time is more than ripe for the employment of trained nurses where the working population is three hundred or more.

INDUSTRIAL HYGIENE

The number of inspections totalled 428, not including those related to Agricultural Health, Ergonomics and Noise, as follows:

Factories	301
Construction	58
Mines	7
Government Departments and Research Institutes	17
Tunnels	24
Swimming Pools	13
Public Halls, Theatres, Offices, Shops	1

Dust—Metropolitan Water, Sewerage and Drainage Board

Following employment of a Scientific Officer to carry out dust evaluation work in tunnels, trenches and shafts on behalf of the Metropolitan Water, Sewerage and Drainage Board an increased number of investigations has been carried out in this field. In trench work particularly, indications have been of dust exposures at levels sufficiently high to cause the rapid onset of silicosis. Testing has been mainly in sandstone excavations with average dust concentrations of up to 8,330 particles per cubic centimetre being recorded. To reduce concentrations to acceptable levels the use of water applied to pick points has been recommended.

In this regard considerable experimental work has been carried out on attachments to pneumatic picks which will supply water to the dust source. One design, developed within the Water Board, has shown considerable promise. Reductions in airborne dust concentrations have been recorded in most tests in excess of 90 per cent.

Air Track Drills

Dust exposures, in excess of acceptable standards have been common, arising from vertical drilling in quarries and excavations. Dust from this type of equipment has been difficult to control owing often to lack of available water and difficulty in utilizing local exhaust ventilation at the hole. A recent innovation using a drip feed of water-detergent mixture carried as fine droplets with compressed air through the drill stem has proved most effective in the control of dust from this equipment. There is also evidence of extended drill life.

Workers' Compensation (Silicosis) Committee

A number of investigations on behalf of the above Committee has been carried out following positive diagnosis of silicosis and applications for compensation. In a number of instances obvious excessive dust exposures have been found. Cases of silicosis associated with rock milling and abrasive grinding and polishing of metals have recently been referred. Exposure surveys have been initiated to find the sources of exposure.

Asbestos

Due to research overseas into carcinogenic effects of asbestos, often with minimal exposure, re-examination of asbestos cases found in previous asbestos surveys has commenced. Sputum cytological examinations of long term employees are being carried out. It is hoped these will lead to further information on health hazards of asbestos.

Toxicology

Swimming Pool Chlorination Plants—A survey of Metropolitan Swimming Pool chlorination plants was carried out to ascertain safety standards available to operators in case of exposure to chlorine gas. A number of deficiencies in handling of cylinders into plant connections, access and escape routes, availability of respiratory protection, rescue equipment and first aid treatment was observed. Recommendations were made to overcome these deficiencies.

INDUSTRIAL DISPUTES

A number of industrial disputes where health was considered involved, was referred to the Division for evaluation. These involved polyurethane insulation, welding, spray painting, dust in a power station excavation and ventilation. All were satisfactorily resolved after investigation.

Tar Fume

Very high levels of exposure to polycyclic hydrocarbons of carcinogenic potential from tar fume have occurred overseas in road making and other operations. A survey involving investigations in coke ovens, pipe coating, furnace construction, etc., was commenced in 1966, resulting in instances of high exposure to 1.2 and 3.4 benzopyrene for which no exposure standards are established. It has been usual to relate the concentration found to the known amounts of the polycyclics in cigarette smoke, giving a peak exposure equivalent to smoking approximately 175 packets of cigarettes per day. The survey is continuing and will be followed up by medical evaluation.

Mercury

A number of investigations were made into mercury exposure in a variety of research projects at Universities and Institutes, mainly resulting from spillages. Vapour concentration can reach serious levels when spillages are in areas where there is much foot traffic. Recommendations were made for specialized clean-up techniques.

Cadmium

Two cases of pneumonitis resulted from exposure to cadmium fume in a silver soldering process in which bronze A frames, to be used in construction, were laid out on the floor, held by one operator and soldered by another, both operators' heads being in the fume. After one relatively short period of work chest symptoms occurred. Exposure was evaluated at 2.6 milligrammes per cubic metre, (M.A.C. 0.1 milligrammes per cubic metre). Prompt suspension of the process by the firm when initial chest symptoms were reported prevented serious health effects.

Teflon—Polymer Fume Fever

A. In reclaiming faulty Teflon coated cooking utensils, destruction of the coating by heating to a high temperature gives rise to toxic fluorine containing breakdown products. Inspections of the process showed that suitably sealing the reclaim furnace and exhaust of fume was necessary.

B. In the manufacture of abrasive wheels a number of employees have reported symptoms including chest irritation, fever and sore throats over a period of four months. Nothing in the process seemed a likely cause of the symptoms. It was finally elicited that these wheel forming trays were spray-coated with a product, which, unknown to the firm, contained Teflon. Baking oven temperature was too low to cause its decomposition, but hand contamination could occur. All those affected were smokers, and evidence pointed to hand and cigarette contamination as being responsible for breakdown of resins in the burning cigarettes. Non smokers were not affected. Smoking was banned on this process.

Di-isocyanates

Advice was sought from the Division as to safety measures required during foam insulation applications in situ to rail carriages and refrigerator cabinets. With suitable air supplied respiratory equipment, local exhaust ventilation and isolation of the processes, no health problems have arisen.

General—Theatres and Public Halls

Ventilation—Arrangements have been made to have ventilation assessment in country Theatres and Public Halls carried out by officers in the appropriate Health Districts. Results of tests and observations are forwarded to this Division for opinion. The arrangement is expected to enable the work to be done more conveniently.

Ultra Violet Lamps In Restaurants—Several complaints of eye irritation from patrons of discotheques, due to the use of Ultra-Violet lighting led to inspections of representative premises. Tests conducted for ozone were negative. Advice was given to cover lamps with plain glass to absorb most of the damaging radiation and to mount them so that patrons are not required to look into them.

NOISE LABORATORY

Jack Hammer Silencers

Tests have been carried out on efficiency of Jack Hammer silencers. Useful noise reduction can be achieved, but where excessive reduction has been achieved problems have arisen from increased back pressure and loss of efficiency of machines.

Saw Mills

Saw Mills have been surveyed. The Hearing Conservation Level has been exceeded in some work areas.

In the Inter-Departmental Noise Committee emphasis has been on the need for education and an awareness of noise in relation to industrial deafness. The Australian Institute of Management organized a valuable Conference on noise.

Background Noise Levels in Residential Areas

A survey into background noise levels in residential areas was carried out. Particular attention was paid to the types of noise known to cause annoyance, and correlation between different methods of investigating noise favouring future simplification of investigations.

Police Sirens

Further tests were carried out on behalf of the Police Department to determine the loudest sirens.

Noise Legislation

No noise legislation exists. At this time it would hinder rather than promote the cause of hearing conservation and necessitate increased staffing.

AGRICULTURAL HEALTH

Surveys

(1) *Organic Phosphate Pesticide Exposure*:—Estimations of cholinesterase activity following organic phosphate exposure were completed at Armidale, Orange and Young for orchardists and at Bathurst for market gardeners.

Alarmingly low results were recorded at Bathurst. Lectures on the safe use of organic phosphates were later given in the area.

Pre-exposure tests were conducted at Forbes for both orchardists and market gardeners.

Anhydrous Ammonia.

A great increase in the use of this material as a fertilizer has increased the potential hazard. A number of storage tanks and nurse tankers have been inspected. The need for adequate respiratory protection, provision of water at mains pressure on storage sites, and fencing and locking up storage areas, have been stressed. A number of installations found to be unsatisfactory were modified.

Cotton Dust

The cotton growing industry has expanded with an accompanying dust problem arising from processing. Dust Concentrations exceeding standard levels show that a byssinosis hazard exists in some plants.

Methyl Bromide

Nursery men using methyl bromide for complete herbage destruction had little knowledge of its toxic nature and hazardous situations existed. Better respiratory protection was observed following discussions with the Nurserymen's Association.

Aerial Spraying of Insecticides

Aerial spraying is a continuing hazard. Despite education, many operators discard protective clothing, increasing the hazard.

Evaluation of Personal Protective Clothing

Recommended protective clothing has been shown to be effective whilst spraying Azinphos and Carbaryl.

Tractor and Farm Machinery

Compulsory notification of the Department of Labour and Industry indicates that deaths and injuries resulting from accidents with tractors and other farm machinery are much more common than formerly believed, and has led to the formation of an advisory Sub-Committee on tractor and Farm Machinery Safety. Regulations based on those in use in Great Britain are under review.

Overseas Visit

Mr G. R. Simpson delivered a paper at the Fifteenth Congress on Occupational Health in Vienna and attended as a delegate the Third Congress on Rural Medicine, in Bratislava. In addition Mr Simpson visited England and gained information on rural safety and agricultural chemicals. He also visited the Israeli Occupational Health Department.

Cholinesterase Testing

A new method for determining cholinesterase activity by the "tube-method" was developed.

ERGONOMICS

Survey into use of Self Contained Breathing Apparatus in Hot and Humid Conditions.

The series of tests of Mines Rescue Equipment at 100°F has been completed and tests at 95°F have been commenced.

Heat and Ventilation

Forty-two investigations were made regarding complaints of excessive heat and poor ventilation in situations which ranged from coke ovens to motor cars. A survey was carried out concerning the effect of car air conditioners on driver stress, and indicated that in hot conditions car air conditioners had a beneficial effect.

Cold Stress

An alleged cold stress situation in a country abattoir was investigated. Recommendations were made to increase the comfort of the employees in the boning room.

Tenosynovitis and Muscular Strain

Many cases of tenosynovitis and muscular strain were investigated. In most, modifications to work place design, tool design and operating procedures were suggested to minimize recurrences. It is intended in the near future to document the results of these investigations.

Anthropometric Survey

A limited survey of male steel workers was completed.

Survey of Design of Circular Dials

About 6,000 factors were evaluated following a survey of over 200 dials in 6 modern automated plants. The results revealed that much improvement is necessary.

Survey into the need for Standardization of Crane Controls

This survey revealed a lack of standardization in positions and directions of motion of controls. This contributes to accidents. Standards have been recommended.

Survey into the need for Standardization of Colour Coding

A survey into colour coding and Australian Standards Specifications revealed a need for colour coding of hazards rather than materials.

Bicycle Ergometry

The physical fitness of twenty-five school boys was evaluated in a preliminary study to compare results by the Astrand and Muller techniques. It is intended to survey the physical fitness of a number of school boys serially each year until school leaving age to determine whether or not the Index of Fitness changes during school years.

Educational Activities

The main educational activities during 1966 were courses and seminars at five premises occupying from two to four days.

Human Kinetics

During the year courses in Human Kinetics were given to the following groups:

Type of Course and to whom given	Number of Locations	Number of Courses	Numbers in Attendance (Approximately)
1 hour—Workers	36	108	2,200
½ day—Supervisors	14	14	112
1 hour—Apprentices	2	3	56
1 hour—Nurses	8	12	200
Coal Miners	9	27	800
2 days—Instructors	8	8	120
Totals ... — ..	77	172	3,488

Other special courses were delivered as follows:

N.S.W. College of Occupational Therapy	..	..	..	..	40 Students
Hawkesbury Agricultural College	..	..	..	..	75 Students
N.S.W. Kindergarten Training College	..	..	..	..	100 Students

Lectures in conjunction with the Ergonomics Group were delivered at five large Companies.

Lecture demonstrations are now followed by a survey of work procedures and recommendations are made regarding working methods and training techniques. Increased interest in the prevention of strains has resulted.

Since the introduction of this procedure eleven large factories have been surveyed.

A survey of materials storage underground in coal mines should decrease strain situations.

Monthly visits are paid to the Rehabilitation Workshop and Gymnasium at Royal Prince Alfred Hospital. Demonstrations in lifting, pulling, carrying, etc., are given to rehabilitees, students, and physiotherapists.

A suitable syllabus is being developed for use by tutor sisters in teaching kinetic principles to all trainee nurses.

Accident Prevention in Hospitals

This survey was continued from 1965 and results published in "Hospital Administration", August, 1966, detailing known and potential hazards, figures of employment, types of accidents, and safety recommendations.

PERSONAL PROTECTIVE EQUIPMENT

Items of personal protective equipment tested in 1966 are summarized below:

Description	Number of Makes	Number of Types	Number of Items	Number of Items of Satisfactory Standard
Respiratory Protection—				
Dust Cartridges	3	3	127	113
Chemical Cartridges	5	8	53	43
Combined Dust/Chemical Cartridges	2	8	68	50
Facepieces	6	10	39	31
Canisters	5	6	40	23
Airline Respirators and Hoods	6	9	15	14
Self Contained Breathing Apparatus	3	3	4	4
Safety Helmets	7	8	29	17
			(Sets of 3)	
Eye Protection—				
Welding Filters	4	7	16	3
Eye Protectors	3	3	3	3
			(Sets of 10)	(Sets of 10)
Hand Cleaners	7	7	9	9
Compressed Air Samples	2	7	2	2
Compressed Air Filters	6	7	8	3
Totals .. .. .	..	81	413	315

There has been a 300 per cent increase in the sets of safety helmets tested, and emphasis upon the application of airline equipment in preference to half face cartridge respirators.

Anthropometric Survey of Male Facial Sizes

An original Anthropometric Survey of the Facial Sizes of 538 men from heavy industry was carried out to obtain information for the design of respiratory face masks. In all 4,304 measurements were taken.

Statistical analysis of results indicated that Australian male facial sizes are slightly smaller than those of people born in the United Kingdom and definitely smaller than other European races.

Protective Equipment Standards

The Standards for Safety Helmets, respiratory protective devices, and eye protection are being revised and new specifications will result in more testing in the Division's laboratory.

Continuing Surveys

Dermal effects of industrial skin cleansers have been investigated in order to compare them with soaps and solvents.

Incomplete investigations into the characteristics and behaviour of resin wool dust filters have been carried out.

RADIATION BRANCH

The Branch has been concerned with routine inspections of premises, or inspections and interviews in connection with the granting of licences under the Radioactive Substances Act, 1957, as amended.

Codes of Practice

The major use of ionising radiations in this State occurs in hospitals. After amendment of the Act, in 1963, to cancel the exemption from licensing previously granted to medical practitioners, dentists and veterinary surgeons using irradiating apparatus for radiographic purposes only, it was decided to consolidate the various requirements of the Branch into codes of practice, and so, with the approval of the Radiological Advisory Council, two were published during the year. Each has achieved a wide circulation. They are:

- 1. "Code of Practice for Use of X-ray Equipment in Medical Diagnosis."
- 2. "Gynaecological Use of Radium and Radon."

Other Codes are in preparation.

Licences Under the Act

- The Act makes provision for two types of licence, namely,
- (i) to possess, use, or sell radioactive substances; and
 - (ii) to possess or use irradiating apparatus (X-ray equipment, etc.).

In the following table, these are designated by "R" and "X" respectively:

LICENCES ISSUED UNDER THE RADIOACTIVE SUBSTANCES ACT, 1966

Category				X-ray or radio-isotope	Licences at 31-12-65	New licences issued in 1966	Lapse of licences in 1966	Licence at 31-12-66	Approximate percentage increase
Medical	..	..	..	X	324	39	23	340	5
				R	61	9	6	64	5
Hospital medical	..	..	..	X	120	46	21	145	21
				R	58	6	0	64	10
Hospital scientific	..	..	..	X	3	2	0	5	67
				R	20	0	1	19	- 5
Dental	..	..	..	X	877	207	37	1,047	19
Veterinary	..	..	..	X	50	14	7	57	14
				R	2	1	2	1	- 50
Chiropractic	..	..	..	X	43	7	7	43	0
General scientific	..	..	..	X	38	10	5	43	13
				R	121	28	21	128	6
Industrial	..	..	..	X	49	16	11	54	10
				R	100	39	23	116	16
Commercial	..	..	..	X	0	0	0	0	...
				R	22	1	1	22	0
Totals	..	..	..	X	1,504	341	111	1,734	15
				R	384	84	54	414	8

Field Inspections

Most inspections were made in the Sydney metropolitan area. However, the following table summarizes the visits made to the various health districts outside that area. Each visit would comprise from two to twenty individual inspections.

VISITS TO HEALTH DISTRICTS (OTHER THAN SYDNEY AND SUBURBS)

Health Districts									Number of Visits
Metropolitan (other than Sydney and Suburbs)	..	..	..	..	..	..	..	..	4
Newcastle	..	..	..	..	..	..	..	..	22
North Coast	..	..	..	..	..	..	..	..	2
South Coast	..	..	..	..	..	..	..	..	5
Western	..	..	..	..	..	..	..	..	6
Northwestern	..	..	..	..	..	..	..	..	3
Riverina	..	..	..	..	..	..	..	..	3
Broken Hill	..	..	..	..	..	..	..	..	0
Total	..	..	..	..	..	..	..	..	45

A scientific officer visits Broken Hill District every two years. More visits are not warranted.

Figures for the number of individual inspections carried out during the year, compared with the corresponding figures during 1965, are as follows:

FIELD INSPECTIONS CARRIED OUT DURING 1966

Category	Radioisotope or X-Ray	Licence Inspections	Non-Licence Inspections	Category Total	
				1966	1965
Medical	X	31	85	136	(177)
	R	5	15		
Hospital	X	5	141	162	(89)
	R	4	12		
Dental	X	278	385	663	(412)
Veterinary	X	12	12	24	(21)
	R	0	0		
Chiropractic	X	22	13	35	(21)
Scientific & Research	X	11	3	97	(85)
	R	28	55		
Industrial	X	12	32	161	(115)
	R	24	93		
Commercial	R	1	1	2	(2)
Transport	R	..	2	2	(5)
Totals	X	371	671	1,042	(727)
	R	62	178	240	(200)

The number of licence inspections in any category does not necessarily equal the number of new licences granted. If the facilities have been previously inspected, and if the applicant's qualifications or experience are considered satisfactory, the granting of a licence may be recommended to the Minister without further investigation.

Faults in Diagnostic X-Ray Machines

Diagnostic X-ray machines constitute the greatest source of ionizing radiations to which both operatives and the population at large are exposed.

Certain requirements in regard to filtration, collimation, and shielding, as well as other minor requirements, are insisted on. The following table sets out the faults found during the year during the course of inspections.

X-RAY UNIT INSPECTIONS, 1966

Category	Hospitals		Radiolo- gists	Cardiolo- gists	General Practitioners	Veterinary Surgeons	Dentists	Chiro- practors	Totals
	Radio- graphy only	Radio- graphy and Fluoro- scopy	Radio- graphy and Fluoro- scopy	Fluoro- scopy	Radio- graphy	Radio- graphy	Dental Radio- graphy	Radio- graphy	
Plants Inspected	170	73	31	3	49	17	541	19	913
Plants with no Faults	148	52	17	3	37	10	482	9	766
Plants with Faults	22	21	14	..	12	7	59	10	147
Inadequate Filters	19	9	8	..	13	5	44	9	107
Inadequate Collimation	6	..	..	..	2	4	33	6	51
Defective Protective Clothing .. .. .	..	8	5	..	..	..	..	..	13
No Shield or Defective Shielding .. .. .	..	6	4	..	1	..	..	3	14
Screen Overlap .. .. .	..	1	1	..	..	..	..	..	2
Lack of Switch Cord .. .. .	..	..	..	..	..	..	2	..	2
Total Faults	25	24	18	0	16	9	79	18	189

In 1965, 138 plants out of 707 (or 20 per cent) had defects. This year, 16 per cent had defects. Of the 189 faults detected, 107 (57 per cent) were due to inadequate filtration and 51 (27 per cent) to inadequate collimation. The slow improvement is expected to continue, but it will be some years before faults are virtually eliminated.

Film-Badge Service

This continues to expand, and consideration must now be given to rationalizing the service by discontinuing monitoring of those occupational categories or persons whose radiation dosage is consistently low.

The following table shows the number of persons and organizations covered by the film-badge service as at 31st December, 1966. The percentage increases in all categories are very similar to those which occurred in the previous twelve months.

FILM BADGE SERVICE—DISTRIBUTION: AMONGST OCCUPATIONAL CATEGORIES IN 1965 AND 1966

Category	No. Organisations		No. of Persons Covered		Persons per organiza- tion
	1965	1966	1965	1966	1966
Medical	126	138	326	349	2.5
Hospital	173	183	790	823	4.5
Dental	324	367	873	983	2.6
Veterinary	19	27	53	77	2.9
Chiropractic	26	34	37	46	1.4
Scientific & Research	36	42	120	124	3.0
Industrial	53	63	277	313	5.0
Transport	0	0	0	0	..
Total	757	854	2,476	2,715	3.2

The radiation dosages received by industrial radiographers continue to cause us some concern and there has been a small increase in the percentage exposed to more than the 5 rem per year permitted under the Regulations, viz.:

ANNUAL DOSAGE DISTRIBUTION AMONGST INDUSTRIAL RADIOGRAPHERS, 1965 AND 1966

Year	Dosage (Rems)	0-1	1-2	2-3	3-4	4-5	Over 5	Total
1965	No. Persons	61	7	2	3	1	4	78
	Per cent of Total	78 %	9 %	3 %	4 %	1 %	5 %	100 %
1966	No. Persons	61	10	6	2	1	6	86
	Per cent of Total	71 %	12 %	7 %	2 %	1 %	7 %	100 %

Action is being taken as described below.

Industrial Radiography Survey

In view of the number of high film-badge dosages received by industrial radiographers during the year, and the obviously unsatisfactory procedures that must have resulted in these dosages, a survey is being carried out with a view to applying a “Code of Practice for the Control and Safe Handling of Sealed Radioactive Sources Used in Industrial Radiography”. This is in course of preparation by the Radiation Health (Standing) Committee of the National Health and Medical Research Council.

Field Tracer Tests

A scientific officer of the Branch participated in several tracing tests carried out by divers organizations. These included:

- (1) The use of 200 pounds of sand labelled with 50 curies of chromium-51 to trace the build-up of a shoal outside Newcastle Harbour;
- (2) The use of 20-millicurie sealed cobalt-60 sources to check restrictions in pipelines under Botany Bay;
- (3) The use of 30 millicuries of sodium-24 to determine the point of leakage from a high pressure, hydraulic main in the City of Sydney;
- (4) The employment of an isotope-dilution technique to determine the amount of mercury in the solray cells at a large chemical-manufacturing plant.

Teletherapy Sources

The first cobalt-60 teletherapy unit to be installed in a private radiotherapist’s rooms in this State was commissioned early in the year. It is situated in the basement of a city building and, at the time of installation, extensive instrumental and film-badge monitoring was carried out, because of its location.

Lost Sources

One source was reported lost during the year. This was a 30-millicurie Caesium-137 tube (12.3 milligrams radium equivalent) which was discarded in an ovoid after removal. This and other waste was burnt in the hospital incinerator, and the ashes had been transported to the tip by the time the loss was discovered.

Tipping is carried out continuously, and the procedure is to compress the deposited material, bury it under further material and ultimately under fly ash from the power stations. Two officers of the Branch made an extensive search of the area where the ashes were known to have been buried, but no indication of radioactivity could be detected. No further action has been taken.

AIR POLLUTION CONTROL BRANCH

Continued development towards the control of air pollution from scheduled premises has occurred during the past year. Almost all major industrial sources of pollution have installed some equipment or made significant changes in operation to reduce emissions. In a number of instances, periods of up to three years will be required to complete the necessary work.

Future population increase and improvements in living standards will inevitably result in increased manufacturing operations, fuel consumption and transport requirements all of which could result in increases in air pollution unless the most effective control measures are adopted. In view of this the Act requires that the siting of all new plants be approved before construction commences and that the most effective controls are incorporated to minimize emissions. On the present results of monitoring it is apparent that this action has prevented any deterioration in air pollution levels and in a number of instances definite improvement has been achieved.

The co-operation of industry in taking action to control emissions was mentioned in my previous report and this has continued. However, in regard to one brickworks where no attempt is being made to control emissions it has been decided to take legal action. This is the first instance where litigation under this Act has been commenced and this was done only when all other avenues to achieve improvement had been explored.

Regulations

Regulations were introduced on 1st July relating to allowable emissions from non scheduled premises. In addition pre-mix bitumen plants were added to the licensing schedule whilst ceramic plants producing less than 200 tons per annum and printing works where type metal is heated in thermostatically controlled pots were removed.

Air Pollution Advisory Committee

The work of the Air Pollution Advisory Committee during the past year has been largely concerned with the consideration of applications to erect new plants and also with the preparation of regulations dealing with non-scheduled premises. I again wish to acknowledge the assistance the Committee has given to the Department and also to me as its Chairman. The knowledge of the members of the Committee of various aspects of air pollution control has a real and continuing influence on the ease with which clean air legislation is being implemented in New South Wales.

The number of applications for the erection of new plants increased from 43 in the previous year to 101. This was partly the result of an upsurge in industrial development and also because of a greater awareness on the part of industrial personnel of their responsibilities under the Act. Many of the new plants were of considerable size and complexity requiring detailed investigation by the Committee with assistance from officers of the Department.

Scheduled Premises

Cement Works	..	..	..	..	..	..	..	..	..	5
Ceramic Works	..	..	..	..	..	..	..	..	..	101
Chemical Works (classes 1 and 2)				..	..	..	..	..	..	119
Coke Works	..	..	..	..	..	..	..	..	..	5
Ferrous and Non-Ferrous Metal Works					..	..	..	..	..	274
Gas Works	..	..	..	..	..	..	..	..	..	12
Grinding and Milling Works			..	..	..	..	..	..	..	115
Oil Refineries	..	..	..	..	..	..	..	..	..	4
Primary Metallurgical Works			..	..	..	..	..	..	..	7
Scrap Metal Recovery Works			..	..	..	..	..	..	..	26
Pre-mix Bitumen Plants	..		..	..	..	..	..	..	..	12
Works containing Boilers and other Furnaces consuming 1 ton or more of feed per hour not included in foregoing	..				..	..	..	..	..	18
Railway Department Workshops				..	..	..	..	..	..	19
Government Transport Department Workshops					..	..	..	..	..	3
Total	..	..	..	..	..	..	..	..	..	720

A total of 59 new licences were issued during 1966 whilst renewal of licences was no longer required from 39 premises so that the total number of scheduled premises in the proclaimed areas has now increased to 720.

Cement Works

During the past year all cement companies have been making detailed investigations of their particular emission problems. At one works a dry process of cement manufacture is employed and because of the problems that have been experienced with electrostatic precipitators on this process, some consideration is being given to the use of bag filters for the removal of dust from the kiln exhaust gases. However, recent developments overseas have resulted in greatly improved operation of electrostatic precipitators on dry process kilns and the final decision of what type of equipment to install will largely depend on capital and estimated operating costs.

The installation of a large cement kiln at a works in the southern area is now well advanced and commissioning is expected in the middle of next year. The reduction in emissions which will result from the installation of this new plant is indicative of developments that can be expected to occur in the future at other cement works in New South Wales. However it may be some years before a satisfactory standard is achieved on all kilns.

Ceramic Works

Further development towards the mechanical firing of intermittent kilns with coal or oil has occurred during the past year. A total of 184 kilns are now fired by mechanical means compared to 128 a year ago. Of the present total 138 are fired with oil burners and 46 with mechanical stokers. Although the increasing adoption of mechanical firing methods is pleasing, a hard core of problem works still exists where traditional hand firing methods continue to be used.

Two tunnel kilns for the firing of heavy clay ware were installed during 1966 and the erection of a further three is proceeding at the present time. This type of kiln operates without significant emissions and their progressive installation should provide a long term solution to emissions from this industry.

A recent decision by the Metropolitan Water Sewerage and Drainage Board to accept unglazed earthenware pipes for sewerage and drainage purposes is expected to result in the solution of the severe air pollution problem resulting from salt glazing at a number of pipe works. This development was influenced by indications from the Department that the erection of high stacks would be required if salt glazing was to be continued indefinitely.

Chemical Works

A significant feature of the activities of the Branch in the past year has been the commencement of a policy of concentrating the efforts of the chemical test team for a period of 5 or 6 weeks on a specific plant where odour problems are known to exist. This policy was applied successfully to one works where a number of sources of odour was established and a programme to control these sources has been initiated.

A Brink Eliminator has been installed on the exit gas stream leaving a 650 ton per day sulphuric acid plant at Port Kembla and this has resulted in a very marked reduction in the concentration of sulphur trioxide in the gas being discharged to the atmosphere. The new superphosphate plant commenced to operate at Port Kembla in March, 1966. Single superphosphate is manufactured continuously in a Broadfield Den and the exit gases pass through a void spray chamber which is followed in a series by a Doyle scrubber and are then discharged to atmosphere through a 150 feet stack. Tests have shown that the concentration of acid gases in the exhaust stream from this plant is very low.

A development in the Newcastle area has been the formation of a complex of chemical plants on Walsh Island in the Hunter River near Newcastle. Works producing sulphuric acid and phosphoric acid and an ancillary plant crushing phosphate rock commenced operations in 1966. These plants came on stream very smoothly and no significant increase in air pollution has resulted from their operations.

Cokeworks

The operations carried out at cokeworks were described in the previous report. Monitoring of dust deposition has been carried out in the vicinity of three works and the values obtained show that real improvement has occurred in regard to one works where internal roadways were tar sealed and coal stockpiles enclosed. At the other works the deposition measurements have shown that similar action is also required. Investigation of automatically controlled water sprays is also being carried out as this could provide a cheaper alternative control method.

Ferrous and Non Ferrous Metal Works

The use of "cone and spray" type wet arresters on cupola furnaces melting grey iron has become more widespread, particularly in situations where a local fallout problem exists because of the close proximity to private residences. Forty-three of these arresters are in use at the present time.

Fallout of particulate matter has been reduced in the vicinity of works where the electric furnaces are in operation but emissions of fine fume can occur if dirty scrap is used, if the heating is too rapid or if oxygen lancing is employed.

Bag filtration plant or high energy wet scrubbers were installed at three non ferrous works during the past year and plans are well advanced for the installation of control equipment at an additional four premises.

Gas Works

A catalytic reforming plant which began to operate at one Gas Works in Sydney during 1966 has caused a considerable reduction in load on the water gas plant. This in turn has resulted in a decrease in the level of the fallout of particulate matter in the vicinity of the plant.

A development at one works has been the construction of a vent line from liquor processing tanks back to the retorts so that hydrogen sulphide gas which was vented to the atmosphere formerly, is now burnt.

Multi-cyclone type grit arresting equipment has been installed on a large boiler at another works. At this same premises close fitting covers have been placed on sludge pits which were shown to be responsible for odour emissions.

Wind blown coke and coal particles from open storage heaps continue to cause intermittent fallout problems in the vicinity.

Grinding and Milling Works

At blue metal quarries where basalt and similar hard minerals used for road construction or in concrete aggregate are crushed and screened, major reductions in dust emission have been achieved. In the main the improvements have been achieved by the use of fogging sprays at all crushers and transfer points whereas in other instances elaborate dust control systems have been installed at screening plants. Where previously these plants were barely visible through the dust haze surrounding them, they now operate without visible emissions. Roadways within quarry areas which are usually unsealed are now the major remaining sources of dust. Because of the frequent re-routing of roads near the quarry face, sealing of these is not always practical. However, there are many permanent roads on a number of these premises and sealing of these is possible. Movement towards this is expected to occur in the future.

Oil Refineries

An Air Pollution Committee was formed during 1966 at one Sydney refinery. The main functions of the Committee are to examine methods of air pollution abatement and to investigate the reasons for any air pollution episodes which may occur within this works.

Flaring of refinery gas is still a problem at one refinery in Sydney but the magnitude of the emissions has been decreased recently because modifications to the design of the catalytic cracking unit have enabled this unit to be operated for longer periods without shut-down.

Primary Metallurgical Works

At Newcastle and Port Kembla a number of plants were completed during 1966 and the effect of this either already has or will shortly become apparent. At one works the conversion of all coal fired boilers to oil or gas firing was completed at the end of the year. The effect of this conversion can be gauged from the improvement in deposition readings for the latter half of the year at monitoring sites at Warrawong and Cringilla. These areas were previously the most affected by fly ash emissions from the boiler plant.

An additional coke oven battery was commissioned at one steelworks in November, 1966. This has been fitted with the most modern control equipment consisting of a high energy impingement type water scrubber on the coal charging car and a grit arrester in a new type of coke quench tower.

At another steelworks all remaining open hearth furnaces were demolished during 1966. Steel is now produced by the basic oxygen steel making process. This involves the injection of oxygen into large tilting vessels containing 220 tons of molten iron and steel scrap. The large quantities of fume produced requires the most modern equipment in the form of electrostatic precipitators to control emissions. Initially when this process was first commenced difficulties were experienced resulting in irregular emission of dense red fumes. Throughout the year efforts were made to improve the availability of the precipitators and to incorporate automatic control of the moisture content and temperature of the exhaust gas. Some success was achieved in this towards the end of the year and more satisfactory operation is expected in the future.

Scrap Metal Recovery Works

The problems experienced with emissions from these works was discussed in the previous report. The control of emissions from aluminium dross recovery furnaces, motor car body burning and insulated cable burning has progressed during the past year, but satisfactory solutions have not yet been reached at all works.

The recovery of scrap from motor car bodies is still being carried out in isolated areas by incineration but most works have ceased or curtailed this practice in developed areas. Developments in the recovery of this scrap by disintegration methods instead of incineration are being investigated by one company and ultimately this may provide a better solution.

Works Containing Boilers and other Furnaces Consuming 1 Ton or More Fuel per Hour

The past year has seen further installations of mechanical firing equipment, fly ash collectors and secondary air jets on many boilers. This has resulted in a general improvement in smoke and fly ash emission from these plants and it would appear that a solution to this problem is now in sight.

An increased use of fuel oils to fire boilers installed by industrial concerns has occurred and this has reduced the emission of fly ash substantially. However, there are indications that the sulphur content of these fuels is increasing. This causes some concern as it will result in increased concentrations of sulphur dioxide in the atmosphere and also in the likelihood of acid smut emission.

The Electricity Commission of New South Wales, a major consumer of fuel has continued to improve emission of fly ash from existing power stations. The installation of gas conditioning equipment to implement the operation of dust collectors is proceeding at a number of stations, while at others, changes in operating technique, reductions in fuel consumption and conversion to low sulphur content fuel oil firing are all having their effect.

Investigations into emissions from incinerators were commenced during the year. Initially this work was directed towards those units consuming wood waste as numerous complaints were being made about emissions from them of charred wood particles and smoke. It has been found that multiple chamber refractory incinerators when equipped with a storage hopper and controlled feed mechanism are capable of operating within the prescribed limits. It has also been found that tepee type incinerators in their present form will not meet the standards and improvements would be necessary before these units were installed in urban areas.

Extension of the above investigations into the control of emissions from incinerators consuming garbage and refuse is to be carried out next year. A committee comprising representatives of the Universities, local authorities and Department is being set up to assist in this task.

Pre-Mix Bitumen Plants

Works in this category were added to the schedule to the Act during the past year. Investigations into emissions from a number of plants have been made and these have shown that improvements in the efficiency of dust collection are necessary. Steps to do this are being taken.

Department of Railways

Conversion of the railway system from steam to diesel or electric traction has continued during the past year and the programme is expected to be completed in 1970.

In regard to railway workshops, conversion or replacement of hand fired stationary boilers and furnaces has been accelerated greatly so that completion of the conversion programme is now expected by 1968.

Department of Government Transport

Public criticism of emissions of smoke and acrid fumes diesel vehicles continues. Investigations carried out during the year showed that the use of combustion catalysts made significant reduction in smoke emission from these engines. Furthermore the use of wet scrubbers and derating of engines will be investigated next year.

The monitoring of the atmosphere for oxidant type pollution from petrol powered vehicles has been continued. The results obtained to date have shown that a general problem has not yet developed in the Sydney area. However, the Department considers that emissions from motor vehicles require detailed investigation so that control measures can be promptly introduced when the need is shown to exist.

DEPARTMENT OF PUBLIC HEALTH—DIVISION OF OCCUPATIONAL HEALTH—ATMOSPHERIC
POLLUTION MEASUREMENTS

DEPOSIT GAUGES—SYDNEY AREA—MEAN DEPOSIT GAUGE RESULTS, 1966

Tons Per Square Mile Per Month

Location of Gauge	Insoluble Solids Dust-fall	Combustible Matter	Ash	Soluble Matter
(a) City of Sydney				
City, Art Gallery	17.4	5.3	12.1	5.3
Central Railway (Railway Square)	16.9	4.4	12.4	5.7
City, George Street North	15.3	4.7	10.6	6.6
City, Martin Place	19.3	4.8	14.6	6.7
City, Town Hall	13.8	4.1	9.6	9.6
Darlington	10.2	3.2	7.0	5.9
Paddington	9.7	2.6	7.1	5.7
Potts Point	13.9	4.4	9.5	7.6
Pymont	28.6	9.0	19.6	6.8
Redfern	18.3	3.2	15.1	6.6
Ultimo	15.0	4.5	10.5	9.4
Auburn, Asquith Street	14.4	4.5	9.9	3.6
Auburn, Parramatta Road	11.5	3.1	8.4	4.6
Bankstown, Calidore Street	9.9	3.0	6.9	3.1
Bankstown, Civic Centre	6.9	1.8	5.1	3.4
Chester Hill, Banool Street	11.6	3.2	8.4	3.9
Georges Hall, Birdwood Avenue	7.9	2.0	5.9	2.6
Greenacre, Noble Avenue	8.5	2.2	6.4	2.8
Padstow, Stuart Street	9.6	2.7	6.9	2.7
Panania, Lambeth Road	7.7	2.2	5.5	2.4
North Rocks, Lawndale Avenue	7.2	2.1	5.0	3.4
Blacktown, First Avenue	14.3	2.2	12.1	2.5
Botany, Banksia Street	11.5	3.9	7.6	7.2
Botany Council Chambers	11.0	3.5	7.5	7.8
Botany East, Denison Street	12.4	4.2	8.2	8.0
Botany East, Dudley Street	11.3	3.4	7.8	5.0
Botany, Stephen Road	15.3	4.3	10.9	7.8
Burwood, Lucas Road	9.8	3.3	6.5	4.1
Burwood, Sherars Avenue	7.5	2.8	4.7	2.9
Enfield, Mitchell Street	9.1	2.7	6.4	3.3
Belfield, Lincoln Street	9.9	2.9	7.1	4.7
Punchbowl, Leigh Avenue	10.5	2.7	7.7	3.9
Ashbury, Trevenar Street	8.5	2.5	6.0	3.2
Cabarita Baths	15.7	9.4	6.3	5.9
Concord, Leigh Avenue	9.1	3.0	6.1	3.1
Mortlake, Turner Avenue	10.2	4.6	5.6	2.5
Drummoyne, Cary Street	13.4	3.7	9.7	6.0
Fivedock, Duke Avenue	7.8	2.5	5.2	3.4
Fivedock, Fairlight Street	7.2	2.0	5.2	2.8
Abbotsford, Montrose Road	11.8	4.2	7.6	4.0
Fairfield, Civic Centre	10.8	2.4	8.4	2.4
Smithfield Shopping Centre	14.7	3.0	11.7	3.5
Guildford, Byron Road	8.4	2.9	5.5	4.0
Merrylands, Birmingham Street	10.0	2.5	7.5	3.6
Hornsby Heights, Rofe Crescent	6.4	2.1	4.3	2.9
Pennant Hills, Vaughan Avenue	7.3	2.3	5.0	3.5
Thornleigh, Sefton Road	8.1	2.3	5.8	2.8
Hurstville, Council Chambers	7.4	1.9	5.6	2.8
Gordon, Darnley Street	5.5	2.0	3.6	2.7
West Pymble, Lofberg Road	6.2	2.1	4.1	3.4
Annandale, Johnston Street	12.3	4.8	7.5	4.1
Balmain, Birchgrove Road	15.6	8.7	6.9	11.4
Balmain, Johnston Street	10.8	3.3	7.5	5.5
Leichhardt, Macaulay Street	6.1	2.1	4.0	3.3
Rozelle, Callan Park	14.3	4.9	9.4	5.5
Rozelle, Quirk Street	11.2	3.2	7.9	3.4
Cammeray, Carter Street	7.7	2.5	5.2	4.9
Crow's Nest, Pacific Highway	7.9	2.4	5.5	7.1
Chifley, Carnegie Circ.	17.0	4.3	12.7	9.4
Little Bay, Prince Henry Hospital	13.5	4.3	9.2	21.8
Maroubra Junction, Cobham Avenue	13.8	4.9	8.9	11.7
Matraville, Baird Avenue	12.7	4.8	7.9	7.1
Matraville, Jersey Road	18.1	4.2	14.0	10.2
Randwick, Avoca Street	8.3	2.3	6.0	8.5
Woolooware, Harnleigh Road	7.0	1.4	5.6	3.0
North Cronulla, M.W.S.D.B. Treatment Works	16.5	2.9	13.6	9.9
Brookvale, Consul Road	6.0	2.0	4.1	3.3
Dee Why, Thew Parade	7.6	2.6	5.0	4.8
Naremburn, Dallys Road	10.4	3.3	7.2	5.0
Naremburn, William Street	5.5	2.2	3.3	3.3
Double Bay, New South Head Road	7.9	2.5	5.4	6.4
Watson's Bay, Cliffe Street	5.4	1.9	3.6	8.1
Hunter's Hill, Council Chambers	9.0	3.1	5.8	4.4
Manly, Council Offices	9.2	2.8	6.4	8.3
Stanmore, Douglas Street	16.1	5.0	11.1	5.0
Sydenham, Unwin's Bridge Road	8.3	2.4	5.8	3.0
Banksia, Gardiner Avenue	6.1	1.6	4.5	4.2
North Ryde, Wicks Road	6.4	2.1	4.2	4.7

DEPARTEMENT OF PUBLIC HEALTH—DIVISION OF OCCUPATIONAL HEALTH—ATMOSPHERIC
POLLUTION MEASUREMENT—*Continued*

DEPOSIT GAUGES—SYDNEY AREA—MEAN DEPOSIT GAUGE RESULTS, 1965—*Continued*

Location of Gauge					Insoluble Solids Dust-fall	Combustible Matter	Ash	Soluble Matter
(b) <i>City of Parramatta</i>								
Dundas, Wyuna Place	..	..	..	..	8.3	2.8	5.5	2.5
Guildford, Macarthur Street	..	..	..	..	12.7	3.2	9.6	3.7
Harris Park, Alice Street	..	..	..	..	11.1	3.8	7.3	3.5
Northmead, Frances Street	..	..	..	..	8.3	2.6	5.7	2.2
Parramatta North, Iron Street	..	..	..	..	7.7	2.4	5.4	1.6
(c) <i>City of Lithgow</i>								
Lithgow, Macauley Street	..	..	..	..	11.9	3.1	8.8	1.7
Lithgow, Geordie Street	..	..	..	..	19.3	3.7	15.6	2.3
Lithgow, Martini Place	..	..	..	..	10.6	2.3	8.3	1.8
Lithgow, Mort Street	..	..	..	..	16.3	3.9	12.4	2.6
(d) <i>City of Wollongong</i>								
Cringila, Shellharbour Road	..	..	..	..	32.4	8.1	24.3	5.6
Wollongong, New Dapto Road	..	..	..	..	16.2	3.5	12.6	3.5
Wollongong, Stewart Street	..	..	..	..	15.6	4.3	11.3	11.0
Unanderra, Farnborough Road	..	..	..	..	7.9	2.5	5.4	3.5
Port Kembla, Military Road	..	..	..	..	33.9	7.6	26.2	15.7
Port Kembla, Wentworth Street	..	..	..	..	20.3	4.1	16.2	9.3
Port Kembla, Jubilee Street	..	..	..	..	26.4	6.0	20.5	7.2
Port Kembla, Somme Street	..	..	..	..	20.1	5.2	14.9	15.6
Cringila, Monteith Street	..	..	..	..	29.4	6.1	23.3	5.0
Cringila, Sheffield Street	..	..	..	..	14.0	3.3	10.8	4.8
Warrawong, 217 Flagstaff Road	..	..	..	..	28.0	5.2	22.7	5.6
Warrawong, 149 Flagstaff Road	..	..	..	..	61.2	14.7	46.4	6.6
Warrawong, Taurus Avenue	..	..	..	..	34.7	9.0	25.6	7.1
Lake Heights, Northcliff Drive	..	..	..	..	20.4	5.0	15.3	5.7
Primbee, Korrongulla Crescent	..	..	..	..	20.2	5.1	15.1	6.4
Dapto, Yorkshire Road	..	..	..	..	10.7	2.3	8.4	2.7
Dapto, Princes Highway	..	..	..	..	10.1	2.9	7.2	3.0
Coniston, Bridge Street	..	..	..	..	32.7	6.5	26.2	5.9
North Wollongong, Kiera Street	..	..	..	..	12.1	3.5	8.6	4.6
(e) <i>Shellharbour</i>								
Albion Park, Princes Highway	..	..	..	..	13.2	3.5	9.7	3.8
Albion Park, O'Keefe Crescent	..	..	..	..	7.8	2.4	5.4	3.6
Albion Park, Calderwood Road	..	..	..	..	8.2	2.6	5.6	3.7
Shellharbour, Wentworth Street	..	..	..	..	12.6	3.8	8.8	6.5
(f) <i>City of Newcastle</i>								
Adamstown, Brisbane Water Road	..	..	..	..	10.6	4.5	6.1	10.6
Carrington, Public Works Department	..	..	..	..	13.0	6.8	6.2	13.9
Broadmeadow, Broadmeadow Road	..	..	..	..	19.8	7.1	12.7	11.4
Kotara, Gregory Parade	..	..	..	..	15.4	7.4	8.0	6.6
Kotara, Woodlands Avenue	..	..	..	..	14.0	7.4	6.6	10.2
Mayfield West, Shell S. Station	..	..	..	..	15.1	5.1	10.0	9.4
Mayfield, Fitzroy Street	..	..	..	..	24.4	6.7	17.7	11.4
Mayfield, Carrington Street	..	..	..	..	33.4	9.2	24.2	12.5
Mayfield, Ingall Street	..	..	..	..	29.9	8.3	21.6	12.8
Mayfield, St. Andrews Church	..	..	..	..	21.1	7.3	13.8	14.2
Mayfield East, Walsh Street	..	..	..	..	34.2	10.2	24.0	13.6
Newcastle, City Hall	..	..	..	..	19.1	6.6	12.5	24.2
Newcastle, Hall Street	..	..	..	..	19.8	8.8	11.0	13.2
Tighes Hill, Kings Road	..	..	..	..	48.6	13.6	35.0	13.3
Stockton, Pembroke Street	..	..	..	..	27.6	8.3	19.3	14.5
Waratah, Lorna Street	..	..	..	..	15.7	6.1	9.6	8.8
Jesmond, Crest Street	..	..	..	..	12.1	5.0	7.1	7.1
Kotara, Park Avenue	..	..	..	..	13.2	4.5	8.7	9.2
Kotara, Seaview Street	..	..	..	..	16.0	5.3	10.7	6.1
Stockton, Fullerton Street	..	..	..	..	20.0	7.0	13.0	14.2
Merewether, Macquarie Street	..	..	..	..	12.6	5.5	7.1	18.2
Wallsend, Drury Street	..	..	..	..	14.8	4.7	10.1	5.9

MONTHLY SMOKE DENSITIES
(Coh Units per 1,000 lin ft)

Site	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Average
(a) Sydney and Suburbs—1966													
Sydney Town Hall	AV. H.D. 0.5 1.4	.. ..	0.7 1.6	0.8 1.7	1.5 3.0	1.8 3.3	1.1 2.2	1.1 2.8	1.3 2.2	0.8 2.0	1.0 2.8	0.8 1.4	1.0 ..
Redfern Town Hall	AV. H.D. 0.5 1.0	1.2 2.2	1.3 2.9	1.1 2.3	1.9 3.3	2.3 4.9	1.8 5.0	1.5 4.2	1.1 2.0	1.0 1.9	0.8 2.0	0.7 1.6	1.3 ..
Paddington Town Hall	AV. H.D. 0.3 1.0	0.5 1.6	0.6 1.4	0.9 2.0	1.1 2.0	1.5 2.8	1.0 2.3	1.0 1.9	0.9 1.6	0.4 0.1	0.4 0.9	0.5 1.3	0.8 ..
Marraville	AV. H.D. 0.0 0.4	0.3 1.4	0.9 1.9	1.0 2.3	1.3 3.2	1.9 4.2	1.4 3.6	1.2 4.0	1.0 2.9	0.6 2.1	0.5 1.9	0.3 1.0	0.9 ..
North Sydney	AV. H.D. 0.3 0.6	0.4 1.1	0.7 1.7	0.7 1.7	1.0 2.3	1.4 2.3	0.9 1.4	1.3 2.2	0.8 1.3	1.0 1.8	.. ..	.. ..	0.9 ..

(b) Newcastle

City Hall Newcastle	AV. H.D. 0.8 2.2	0.9 3.6	1.8 4.6	1.4 2.8	2.3 4.5	2.6 5.0	1.6 3.9	1.6 5.1	1.3 2.9	1.3 2.6	1.0 3.3	1.1 2.4	1.5 ..
Bolton Street Newcastle	AV. H.D. 0.1 0.5	0.3 1.3	0.4 2.6	0.2 1.4	0.9 3.2	1.5 4.8	1.3 2.9	0.9 3.1	1.6 2.9	1.1 2.6	0.8 2.9	0.6 1.9	0.8 ..
Mayfield East Newcastle	AV. H.D. 0.5 1.9	0.5 1.4	0.6 1.2	1.1 3.6	1.9 3.9	2.1 4.3	1.3 3.1	1.6 4.2	1.5 3.6	1.0 2.3	0.9 1.9	0.9 1.6	1.2 ..

AV. = Average
H.D. = Indicates Highest density for month

MONTHLY SULPHUR DIOXIDE CONCENTRATIONS
PPHM

Site	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Average
(a) Sydney and Suburbs—1966													
Sydney Town Hall ..	AV. H.D. 1.0 2.7	1.4 4.0	2.3 3.9	2.3 4.6	2.8 4.4	4.1 7.5	2.6 4.3	2.0 3.7	2.9 8.2	2.3 3.6	2.3 5.7	.. ..	2.5 ..
Redfern Town Hall ..	AV. H.D. .3.1 13.2	3.4 6.0	4.3 7.2	3.8 5.8	3.6 6.8	3.8 5.8	3.8 8.3	3.7 5.5	4.9 8.8	7.0 10.8	5.8 8.8	5.4 9.3	4.4 ..
Paddington Town Hall ..	AV. H.D. 2.5 11.6	1.8 3.0	2.5 4.0	3.0 4.2	2.5 3.9	2.7 4.6	2.7 4.0	2.0 3.2	2.2 3.5	1.6 3.1	2.5 6.3	2.4 4.1	2.4 ..
Matraville	AV. H.D. 1.6 3.3	4.4 9.6	4.1 10.3	3.5 7.0	2.2 5.6	1.9 3.3	2.3 4.2	2.4 4.7	3.1 5.8	3.4 6.8	2.8 5.4	3.4 7.0	2.9 ..
North Sydney ..	AV. H.D. 0.8 1.3	0.8 2.0	0.9 1.4	0.9 1.4	1.1 1.8	1.4 2.8	1.4 2.3	1.3 2.2	1.4 2.9	1.3 1.8	.. ..	.. ..	1.1 ..
(b) Newcastle													
Newcastle City Hall ..	AV. H.D. 0.0 0.0	0.0 0.9	0.4 3.2	0.4 2.8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.2 1.9	0.2 1.6	0.0 0.0	0.0 0.0	0.1 ..
Newcastle, Bolton Street ..	AV. H.D. 1.5 2.9	1.9 4.0	2.1 3.8	1.6 3.1	1.1 4.0	2.0 3.3	2.5 5.1	1.6 7.9	2.2 4.3	1.9 4.5	1.3 3.4	1.2 2.4	1.7 ..
Newcastle, Mayfield East ..	AV. H.D. 1.2 2.0	2.0 2.6	2.2 3.2	1.6 3.7	1.3 2.5	2.0 4.9	1.6 2.4	1.7 3.2	2.5 3.6	1.4 3.1	0.9 1.6	1.1 2.1	1.6 ..

The Institute of Clinical Pathology and Medical Research

Director: Dr H. KRAMER, M.B., Ch.B., M.C.P.A.

Location: Joseph Street, Lidcombe

Established in 1959, The Institute of Clinical Pathology and Medical Research provides a comprehensive Clinical Pathology service for the whole of the State of New South Wales available free of charge to all Public and State Hospitals and to medical practitioners attending patients unable to afford the fees of a private pathologist. Specimens for investigations not otherwise available in the State are accepted without financial restriction, while the Exfoliative Cytology, Venereal Disease Serology and Virology departments also provide a free service which is generally available. The Institute also undertakes the training of Medical Technologists and doctors wishing to specialize in Clinical Pathology and in addition carries out medical research in the various specialized branches of laboratory medicine.

As in the past the various activities of The Institute will be considered under the following headings:

- A. Clinical Pathology Service.
- B. Training of Pathologists and Medical Technologists.
- C. Research.

A. CLINICAL PATHOLOGY SERVICE

Pathology is the study of disease in all its aspects; as such it constitutes the foundation on which the whole practice of medicine is based. For many years it embraced little more than the study of structural damage done to the body by the various disease processes to which mankind is subject and in consequence, was carried out mainly in the post-mortem room and to a lesser extent on tissues removed surgically. Up until the War Pathology consisted of little more than this together with the study of the bacterial causes of disease. Relatively simple examinations of blood and urine were sometimes done by clinicians in the side room of a ward. It was long recognized however that many diseases which produce no recognizable structural damage cause profound disturbances of function but it is really only since the War that the application of refined physical and chemical methods to the study of biological material has made possible the extremely accurate measurements necessary to reveal these disorders of function. Clinical Pathology as it is now called, is a highly developed specialized branch of medicine concerned with the laboratory investigation of all the manifestations of disease processes both structural and functional and its growth has been accompanied by a revolutionary change in the whole practice of medicine.

Formerly, clinical practice was largely an art, with doctors relying on a careful history of symptoms and examination of the patient to elicit physical signs as a guide to diagnosis while treatment was largely empirical, with the gross reactions of the patient the only guide. Today the whole picture is completely altered. Medicine has become a science and the clinician demands precise measurements to ensure accuracy in diagnosis and precision in the control of treatment. In an ever growing number of cases the clinical findings serve now only as a guide to the laboratory investigations which the clinician demands. Diagnosis depends not only on positive laboratory findings, but differential diagnosis demands a great variety of negative findings as well, as an aid to the exclusion of other possible considerations, whilst in many instances the selection and control of treatment is also under laboratory guidance. Whereas in the past this type of medicine was regarded as the prerogative of the larger teaching hospitals, in recent years its practice has widened progressively so that today even the smaller hospitals and general practitioners are constantly clamouring for greater investigational facilities.

While it is no simple matter to meet these demands, they should not be discouraged. Indeed, if the quality of medical care is to be improved, with all that means in terms of national economy and social well being, every effort should be made to meet the demand, within reason, as without ready access to investigational facilities the modern doctor is handicapped in caring for his patients. Medical practitioners are by no means the only source of pressure for more laboratory investigations; patients are becoming increasingly aware of the need for proper investigation of their ailments as the mass media of communication publicise medical and scientific topics. It is in this context that the activities of The Institute of Clinical Pathology and Medical Research must be viewed. The range of investigations it undertakes is very broad embracing as it does practically every test of proved usefulness for which there is a demand. In its short history The Institute has come to occupy a key position, with virtually every hospital in the State dependent to a lesser or greater degree on the service it provides. Many of the smaller country hospitals have either very limited or no laboratory facilities at all and are entirely dependent on The Institute. The larger Base or District hospitals usually have laboratories staffed by a Medical Technologist with in most cases, no specialist Pathologist in attendance, although some have a visiting Pathologist, while a small proportion enjoy the services of a full-time Pathologist. In any event, the range of work which they undertake is limited and what they cannot do is referred to The Institute. Hospitals from which specimens were received during the year are listed in Appendix A.

The Institute is divided into seven separate departments and an account of their activities follows:

Pathological Anatomy and Histology

This department is concerned with the gross and microscopic study of tissue removed surgically for purposes of diagnosis or during the course of treatment; its function is to establish the nature of the disease process. Of particular importance is the presence or absence of malignant disease because it is only by histological examination that this can be definitely confirmed or excluded.

The number of specimens received during the year amounted to 11,239 and from these 38,196 sections were prepared and examined. These figures are about the same as in 1965. It is perhaps of interest to record that in 1,364 cases the diagnosis of cancer was established. Autopsies performed for the Lidcombe Hospital totalled 231 and specimens from another 142 were submitted from other hospitals. The Histopathology department now ranks as one of the busiest if not the busiest in Australia and it is a matter for no little satisfaction that virtually all the work is done by staff who have received all their training at this Institute.

On 9th June, 1966, a disastrous fire occurred in the department. One member of the staff, Mrs P. F. Butterfield, Laboratory Attendant, was critically injured and much essential equipment, including three Automatic Tissue Processors, was destroyed. Fortunately, we were able to maintain the service with the help of equipment borrowed from the laboratories at the North Ryde Psychiatric Centre and the Division of Forensic Medicine, pending the replacement of the Tissue Processors.

Exfoliative Cytology

Exfoliative Cytology is concerned with the microscopic examination of cells which are constantly being shed from body surfaces as a normal event. It is now well established that changes indicative of developing cancer are recognizable in such exfoliated cells long before the disease becomes manifest clinically. Cancer of the cervix of the uterus, one of the commonest cancers of women, is particularly susceptible to early detection by this method and in 1962 a Department of Exfoliative Cytology was established at The Institute in order to provide a state wide service for the early detection of uterine cancer. During the year the work of this Department expanded rapidly with some 1,500 doctors from all over the state submitting specimens. In all 127,890 specimens were received, an increase of 45.6 per cent over the figure for 1965.

The growth rate in the work done by the Department of Exfoliative Cytology over the 5 years since it was opened is shown below:

SMEARS RECEIVED								Smears
1962	..	..	..	..	..	..	..	16,512
1963	..	..	..	..	..	..	..	37,538
1964	..	..	..	..	..	..	..	56,565
1965	..	..	..	..	..	..	..	87,828
1966	..	..	..	..	..	..	..	127,890
Total..	..	..	..	..	..	..	..	326,333

To date evidence of Cancer of the Cervix has been found in 1,410 women. In 195 of these the lesion was clinically evident so that cytological examination provided no more than confirmation of the diagnosis. However, in 1,215 patients there was no clinical evidence whatsoever of cancer. In 976 of these the diagnosis has been confirmed histologically and appropriate treatment instituted at a stage of the disease when the prospects of complete cure are very good. In the remaining 239 patients further investigations are proceeding and there is little doubt that in a very high proportion of these histological confirmation of the diagnosis will be forthcoming in the near future.

Exfoliative Cytology has also been applied to the diagnosis of cancers in other situations although in these it is applied more to assist in the clinical diagnosis in cases of suspected cancer of stomach, lung, urinary bladder, etc., as mass screening programmes for the detection of cancer in these situations are not practicable. A total of 1,456 such examinations were carried out during the year an increase of 49 per cent over the figure for 1965.

Haematology

Haematology is concerned with the investigation of blood diseases. During the year the Haematology Department received 7,234 specimens on which 26,080 investigations were carried out, representing an increase of 10 per cent over the corresponding figures for 1965. As in previous years, the greater proportion of the increase is accounted for by the more complex investigations so that the crude figures give little true indication of the increased work load. Microbiological assays for Vitamin B₁₂ and Folic Acid have now become standard investigations and in order that they may be efficiently performed it is now necessary to apply stricter criteria to the selection of patients. Specimens for these investigations are now accepted only where we are satisfied that the result will be of value to the patient, or for clinical research and teaching where full data are being accumulated. No less

than 1,496 serum assays for Vitamin B₁₂ and 719 Folic Acid assays were undertaken during the year. Because of the complexity of these investigations, they have all to be carried out by senior staff and this has imposed a heavy burden on the department. Demands for haemoglobin electrophoresis are increasing and new techniques such as agar and starch gel are now in use when indicated. The Haematology Department now also carries out a full range of histochemical tests for leukocyte abnormalities.

Venereal Disease Serology

This department is concerned with carrying out blood tests for the diagnosis of syphilis and it also does a smaller number of serological tests relating to gonorrhoea and lymphogranuloma venereum infections. During the year 146,563 serological tests were carried out, an increase of 5.6 per cent over the corresponding figure for 1965. The largest number of tests was done for Public Hospitals (34,043); Mental Hospitals (25,956); the Epidemiology Division (24,136); the Prisons Department (17,107) and private medical practitioners (17,486).

When at the request of the National Health and Medical Research Council, this Institute assumed Reference responsibilities for *Treponema Pallidum* Immobilisation (T.P.I.) and Fluorescent *Treponemal Antibody* (F.T.A.) tests for the whole of Australia, the Health Departments of all States were notified by circular of the availability of the service and many specimens are now being received from other States for these highly specific and sensitive tests. Specimens for the T.P.I. test are also received from New Zealand, New Guinea and Fiji. During the year 4,164 T.P.I. tests were done compared with 3,373 in 1965; 1,801 F.T.A. tests were done compared with 375 the previous year.

Bacteriology

Following the resignation of Dr D. Hansman at the end of 1964, the Bacteriology department was able to maintain its service during 1965 with the invaluable part-time assistance of Dr E. B. Durie, who had recently retired from the position of Senior Bacteriologist at The Royal North Shore Hospital. In January, 1966, Dr S. Fisher joined the Staff as Senior Bacteriologist. During the year the Bacteriology department received 15,210 specimens, a very slight increase over the previous year. On these specimens, 42,444 tests were carried out, a decrease of 4.4 per cent over 1965. The main cause of this decrease was the falling off in the number of specimens of sputum requiring examination for *M. tuberculosis* due to the fact that during the latter part of the year responsibility for the work of the Randwick Chest Hospital previously done at this Institute was assumed by the laboratory at The Prince of Wales Hospital. There was also a decrease in the number of antibiotic sensitivity tests performed because of rationalization and simplification of the procedures with elimination of tests now regarded as redundant. The Bacteriology department has now almost reached saturation point and the present staff could not handle much more work as the available laboratory facilities are almost fully extended.

Towards the end of the year Dr Fisher was sent abroad for 2 months to visit laboratories in Great Britain, the Continent of Europe, U.S.A. and Canada to investigate recent developments in medical microbiology which might usefully be incorporated into our service.

Clinical Biochemistry

During the year 20,008 specimens were received for biochemical analysis an increase of 27 per cent over the figure for last year. The number of tests carried out on these specimens totalled 40,410, 23 per cent more than in 1965.

It is of interest to recall, that in 1960 the number of specimens received for clinical biochemical investigation exceeded 5,000 for the first time. In 1963 the 10,000 mark was reached and in 1966 the total exceeded 20,000. In other words the work load has doubled every 3 years, a rate of about 25 per cent compound per year. This trend has been quite consistent and shows no sign of slackening. There is no reason to assume, therefore, that this exponential growth will alter significantly in the immediate future, yet if it continues it must precipitate a crisis, as a further doubling of the work load would be quite beyond the capacity of the present laboratories. The steady increase in demand applied to most investigations including the more complex ones, a considerable proportion of which again came from the City Hospitals. As in the other departments, the number of more sophisticated or more complex investigations is very much higher than pertains in any general hospital laboratory, or, for that matter, in any Teaching Hospital department. In fact a very high proportion of the work is referred by the hospitals which lack the facilities or qualified staff to do these more complex investigations. This means that a higher proportion of the work must be done by the Senior Staff who, in consequence, have little time to devote to the investigation and introduction of the newer tests which are constantly being added to the diagnostic armamentarium.

The sharp increase in requests for Serum Protein Bound Iodine Determinations as an aid to the assessment of thyroid function continued unabated. Totals for 1964, 1965, and 1966 were: 1,754, 3,273, and 5,974 respectively. The number of specimens now received for Protein Bound Iodine estimations is beyond the capacity of our present equipment and it is proposed to alleviate the pressure by converting from manual to automatic operation, which would increase the potential several fold.

Virology

Virology is concerned with the study of viruses and the diseases which they produce. During the year 3,761 specimens were received for virological investigation, a decrease of 8 per cent by comparison with the figures for 1965. Seven thousand and forty-two tests were carried out on these specimens. The decrease in work is attributable almost entirely to the fact that a Virology Department has now been established at Prince Henry Hospital which, in previous years was one of our largest sources of specimens.

The discovery about four years ago of methods for cultivating Rubella virus in the laboratory permitted the investigation and subsequent successful introduction of the technique at The Institute, the main purpose being its application to more precise Rubella diagnosis particularly in early pregnancy. A highly effective system for propagating the virus and determining antibody levels has been developed and this has already yielded a rich harvest of original findings, particularly in relation to the role of Rubella virus in the production of congenital abnormalities. Special attention has been given to the persistence of virus in congenital cataracts and isolations of the virus were achieved from fifteen specimens of lens tissue removed at operation. Continuing serological investigations have also been carried out on these children and their mothers. This particular aspect of congenital rubella does not appear to have been studied by overseas workers.

A Complement Fixation Test for mycoplasma pneumoniae has been developed and this will be of considerable value in the differential diagnosis of atypical pneumonias. A Complement Fixation Test has also been introduced for the diagnosis of infections with cytomegalovirus an agent which has recently been shown to be transmissible by blood transfusion causing a glandular fever like illness. Infection with this virus is a not uncommon complication of open heart surgery in which fresh blood is used for transfusion.

During July and August there was an epidemic of Influenza in New South Wales. A serological survey of normal healthy blood donors was carried out before, during, and after the epidemic and this revealed an infection rate of approximately 17 per cent in the community. The virus responsible was isolated and shown to be of the A2 (Asian type) differing somewhat in antigenic constitution from previously known strains. Four representative isolates were sent to the WHO Influenza Centre for comparison with isolates from other parts of the world.

Serological tests for toxoplasmosis continue to increase and during the year 1,355 Complement Fixation and Haemagglutination tests were performed on specimens from patients suspected of suffering from this disease.

B. TEACHING

Training of Medical Graduates as Pathologists

The Institute enjoys full recognition by the University of Sydney and The College of Pathologists of Australia as an approved laboratory for the training of medical graduates seeking specialist qualifications in Pathology.

Seven Registrars are at present undergoing training in The Institute's laboratories. The tenure of the Registrarships is four years, during which time the trainees spend fifteen months doing pathological anatomy and histology and nine months in each of the other major departments, i.e., Haematology, Bacteriology, and Clinical Biochemistry, leaving a further six months for general revision. Post-graduate teaching activities are reinforced by attendance at Seminars, Scientific Meetings, Lectures, and informal tutorials. For six months, while working in the Haematology department, the Registrar is either in residence or on call for all emergency pathology work at the Lidcombe Hospital and in this way he is able to gain experience in emergency pathology.

Bearing in mind that it is only $7\frac{1}{2}$ years since The Institute was established and that it took almost a year before effective training programmes were developed and trainees recruited, the results have been most gratifying. Pathologists are required to undergo a minimum of five years Post-graduate training before becoming eligible for membership of The College of Pathologists of Australia and in 1965 the first of our trainees qualified. During 1966 a further three qualified and it is confidently expected that in 1967 another three will pass the examinations and gain their specialist qualification. The contribution which this Institute is now making towards overcoming the serious shortage of Pathologists in New South Wales is a matter for satisfaction.

Training of Laboratory Assistants and Medical Technologists

The training of Laboratory Assistants and Medical Technologists is conducted on an apprenticeship system combined with part-time formal studies at the Sydney Technical College. Laboratory Assistants-in-training undergo a four-year course after which they are eligible to sit for the Biology Certificate at the Sydney Technical College and qualify as Laboratory Assistants. After a further two years of study, i.e., six years in all, they may qualify for the Diploma in Medical Technology. To date twenty-four of our trainees have qualified for the Biology Certificate and twelve of these have now attained the higher qualification, the Diploma in Medical Technology. Unfortunately, our net yield from this training programme has been rather disappointing, as eleven of our past trainees (eight Medical Technologists and three Laboratory Assistants) have left to work elsewhere. Some comfort can be derived from the fact that a great majority are still utilizing their training and that we have provided much needed staff for Public Hospitals. Indirectly they are still of value to this Institute in that the work which they now do in the Public Hospitals reduces the amount which is referred to The Institute.

During the year three Indonesian Colombo Plan students were accepted for advanced training in Medical Technology and a further Colombo Plan student (from Sarawak) is due to attend in 1967.

The technical staff in the department of Exfoliative Cytology known as Scanners are all trained at The Institute, which is now in a position not only to offer training to pathologists and gynaecologists, but also to train cytotechnicians and scanners for outside bodies. Several from New South Wales and other States have already taken advantage of the training facilities offered by The Institute.

Staff Meetings

An important feature of the educational side of the work of The Institute is the programme of weekly staff seminars which are jointly sponsored by The Institute and the Lidcombe Hospital. These meetings are open to the Medical Profession as a whole and are advertised in the Medical Journal of Australia, in the British Medical Association's Monthly Bulletin, and by the Post-graduate Committee in Medicine of the University of Sydney. Approximately thirty-six such meetings are held each year, spread over three terms in each of which twelve seminars take place; there is a recess of approximately one month between terms. All members of the scientific staff are encouraged to attend and the senior staff, Registrars and Microbiologists are expected to take turns at presenting papers; outside speakers are also invited to lecture. Apart from the fact that these seminars provide a common ground on which the staffs of The Institute and the Lidcombe Hospital can meet, much valuable clinical, pathological, and scientific information is disseminated. One of the most important aspects however, is the opportunity these seminars afford for the junior members of the staff to gain practical experience in lecturing before a critical audience. The programme of staff seminars held during 1966 is attached. See Appendix C.

C. RESEARCH

This aspect of our work has still not received the attention it deserves, mainly because the heavy commitments for diagnostic investigation have meant that senior members of the staff have had little opportunity to pursue their research interests or to cultivate these activities among their junior staff, who have themselves to carry out much of the routine work under supervision. This is a pity because the interest and ability to pursue useful research is there, the materials and facilities are available, and all that is really lacking is time. It is hoped that it will be possible in the near future to provide each of the specialist heads of the departments with an understudy by appointing the best of the registrars to permanent positions on the staff when they complete their training. This should lighten the load of the routine work at present carried out by the specialist staff and provide the opportunity for collaborative research. At the same time as more technical staff complete their training, it should be possible to enable some of the Science Graduates, at present engaged on technical work, to participate in research activities.

Despite these difficulties, programmes of original work are being pursued in the various departments. Much of this is of a developmental nature aimed at overcoming technical difficulties inherent in some of the more specialized investigations. Some involve epidemiological or other types of survey while a small residue is rather more fundamental in nature.

Biochemistry

In previous annual reports, reference was made to the work being done on the development of technical methods for the analyses of steroid hormones and their metabolites excreted in urine. Much progress has been made in this difficult field throughout the year. Critical assessment of every stage of the processing required to isolate and measure urinary neutral steroids has resulted in techniques for the reliable quantitation of a number of metabolites. More study along similar lines is required before equally reliable results for urinary oestrogens can be obtained, although progress in this direction has also been achieved.

Work on various aspects of porphyrin metabolism is being pursued and quantitative estimations of δ -amino levulinic acid, porphobilinogen and some of the porphyrins are now undertaken. In particular research on methods of chromatographic analysis for these compounds is being carried out.

Haematology

Investigation of the nutritional status of aged males, with particular reference to hematinics, has continued during the year and the Haematology department has also collaborated with the department of Histopathology and clinicians of the Lidcombe Hospital in an investigation of gastritis and gastric function in the elderly. A start has been made on the screening of all specimens of sera deficient in Vitamin B₁₂ for Intrinsic Factor antibody as a further diagnostic test for pernicious anaemia. Technical difficulties associated with the assay of Folic Acid have prompted a full scale investigation of the assay procedure with a view to refining the technique and improving the reliability of the results. Some early investigational work on pyridoxin assaying using tetrahymena was started but at present has been temporarily suspended.

Histopathology

Work has proceeded on the histochemistry of mucins and techniques of immunohistochemistry with particular reference to fluorescence microscopy have recently been under investigation. New equipment for this work was received towards the end of the year and once this is installed and standardized it will be used for investigational work on auto-immune disease in collaboration with the Haematology department. The Histopathology department is also collaborating with the Virology department in attempts to adapt fluorescent label antibody methods to hasten the serotyping and identification of certain viruses; and in collaboration with the Haematology department and clinicians of the Lidcombe Hospital in investigating gastric function in the aged.

Virology

Research activities in the Virology department have concentrated on a variety of aspects of the Rubella problem, particularly in pregnancy and in the newborn. Much of the work on Rubella has been carried out in collaboration with the Children's Medical Research Foundation and no less than eight publications relating to various aspects of Rubella have been prepared during the year.

~ Considerable experience has been gained in the use of Fluorescent Antibody for the identification of virus isolates. Although this is a rather difficult technique, it will probably come into widespread use in the next few years because results can be obtained very much more rapidly than by conventional methods of serological identification.

Bacteriology

Studies are in progress in the changes which occur in splenic macrophages of mice after the injection of certain colloidal substances. A paper on this work has been submitted for publication. A method for the bacteriological examination of specimens of urine obtained at locations where no laboratory facilities are available has been developed. This has been a vexing problem for years as the bacterial flora of specimens of urine alter to such an extent between the time of collection of specimen and its arrival at the laboratory that for practical purposes the findings have little validity. The method now developed largely overcomes the deterioration of the specimen in transit and when it is introduced as a routine will materially improve the quality of service which we can offer to country centres. A co-operative trial is being planned between the department of Bacteriology and some other major laboratories in Australia on the efficacy of certain procedures used for the treatment of sputum for isolation of mycobacterium tuberculosis. Work is also in hand on improved techniques for the classification of "anonymous" mycobacteria and an investigation has also been started into the development of Complement Fixation Tests for the detection of chronic Brucella infections.

Exfoliative Cytology

The main research activity of the department of Exfoliative Cytology is a long term evaluation of the effect of mass population screening on morbidity and mortality from Carcinoma of the Cervix. Concurrent with this is an investigation into certain epidemiological aspects of cervical carcinoma, such as age, parity, hormonal influences, etc. Both these projects involve the sorting and statistical analysis of a very large volume of records. During the year considerable effort has been directed at the writing of a computer programme and this is now complete and tested. At present progress is being made at the transfer of the records to punch cards for presentation to the computer.

Venereal Disease Serology

During the year a satisfactory immunofluorescence technique for detecting treponemes in slides made from chancre exudates has been developed in the department. This technique is of use where a medical practitioner has no facilities for dark-ground examination available, and its value lies in the fact that the examination can be carried out on a specimen collected in the surgery, fixed and sent to the laboratory for examination, whereas previously, it was necessary for the patient to attend in person. At present the technique does little more than dark-ground examination in that it merely reveals the presence of treponemes morphologically indistinguishable from *Treponema Pallidum*. However, further work in progress is aimed at making the test more specific so that it will reveal only the presence of *Treponema Pallidum*.

The Serology department has collaborated with Dr Hornabrook of New Zealand, who was conducting a Kuru investigation of natives in the Eastern Highlands of New Guinea. This work has necessitated the performance of some thousand routine and T.P.I. tests on specimens which he has collected.

A comparison of the FTA-ABS test with the FTA-200 test has been carried out on a large series of specimens with a view to replacing the FTA-200 test if the FTA-ABS test proves to be more specific. Work on this is still proceeding. The department is also endeavouring to establish a correlation between certain anomalous results in the V.D.R.L. test by checking them against the T.P.I. test. It is hoped to establish the reason why certain sera behave in this unusual fashion with the V.D.R.L. test.

GENERAL

Administration

The broad administrative structure of The Institute which functioned satisfactorily in the past became progressively strained as the work load grew beyond the levels for which the laboratory and office accommodation were originally designed. During the year a complete review of existing procedures was undertaken with a view to reducing the amount of clerical work involved, and speeding the dispatch of reports. This culminated in the introduction of photocopying procedures, thus eliminating much of the typing of reports which previously occupied so much time and space. In addition the filing of patients' records has been mechanized, thus speeding retrieval of information. This has greatly reduced the time required for answering telephone enquiries relating to specimens. Considerable progress was made during the year in the microfilming of records in order to facilitate access to them and also conserve storage space.

Conclusion

This year has seen a further all round expansion in the activities of The Institute of Clinical Pathology and Medical Research. The volume of work done in all departments has continued to increase while the variety of investigations offered has steadily broadened. Many of the investigations now undertaken at The Institute were not previously available in New South Wales or if they were available were restricted to patients attending at a few specialized hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State. The time might now be opportune to consider the future development of the Clinical Pathology Service provided by The Institute. In seven years the amount of work has increased phenomenally and if the present trend continues, and there is every reason to believe that it will, it is not difficult to envisage a situation where the available laboratory space can no longer accommodate the volume of work. Indeed this situation has already been reached in the Bacteriology department and is rapidly approaching in the departments of Exfoliative Cytology, Biochemistry, and Venereal Disease Serology. The New South Wales Department of Public Health is now in a position to provide a comprehensive diagnostic laboratory service second to none in this State. That this has come about in so short a period is due in some measure to the excellent facilities provided, but of far greater consequence is the very high quality of the staff which we have been fortunate enough to recruit. They have always reacted with enthusiasm to any proposals aimed at improving the output and quality of the work, and it is to this spirit that the results achieved to date are attributable. That it has been possible to encourage and maintain this enthusiasm is due in no small measure to the co-operation and support which we have enjoyed from the central administration of the New South Wales Department of Public Health and other Government Departments, notably the Public Service Board, the Government Stores Department, and the Department of Public Works.

Of the three functions, the service component is now fully operative and flourishing. The far-sighted training programme inaugurated in the early days is now bearing fruit so that the early anxieties over staffing have been dissipated and it now remains to develop the research activities which have perhaps languished a little because of the necessity to ensure that the other two functions were first solidly established. Given continuation of the support which we have enjoyed to date, there is now no reason why we should not, in the coming years, make significant contributions of original work which will add further to the reputation which the New South Wales Department of Public Health has built up over the past few years.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

LIST OF HOSPITALS FROM WHICH SPECIMENS ARE RECIEVED

(This list does not include hospitals administered by the New South Wales Department of Public Health)

Hospital	Biochemistry	Bacteriology	Haematology	Histo-pathology	V.D. Serology
Auburn District	+	+	+	+	+
Balmain and District	+	+	+	+	+
Bankstown District	+	+	+	.	+
Benevolent Society of N.S.W.: Royal for Women	+	+	+	.	+
Bethesda, Marrickville	+
Blacktown District	+	.	.	+
Canterbury District Memorial	+	+	+	.	+
Eastern Suburbs	+	.	+	.	.
Fairfield District	+	+	+	+	+
Hornsby and District	+	+	+	.	+
Lewisham	+	+	+	.	+
Liverpool District	+	+	+	+	+
Manly District	+	.	+	.	+
Marrickville District	+	+	+	+	+
Mater Misericordiae (North Sydney)	+	+	+	.	+
Mona Vale	+	+	+	+	+
Northcott Neurological Centre	+
Parramatta District	+	+	+	+	+
Prince Henry	+	+	+	.	.
Prince of Wales	+	+	+	.	.
Queen Victoria for Women and Babies	+
Rachel Forster	+	+	+	.	+
Royal Alexandra for Children	+	+	+	.	+
Royal North Shore	+	+	+	.	+
Royal Prince Alfred	+	.	+	.	+
Royal South Sydney	+	.	+	.	.
Ryde District Soldiers' Memorial	+	+	+	.	+
St George	+	+	+	.	+
St Joseph's (Auburn)	+	+	+	+	+
St Margaret's for Women (Sydney)	+	+	+	.	+
St Vincent's (Darlinghurst)	+	+	+	.	+
Sutherland District	+	+	+	.	.
Sydney	+	+	+	.	.
Sydney: Kanematsu Memorial Institute of Pathology	+	.	.
Sydney Homoeopathic	+	+	.	.	+
United Dental	+
Western Suburbs	+	+	+	.	+
Women's (Crown Street)	+	+	+	.	+
<i>Country</i>					
Albury Base	+	.	+	+	.
Armidale and New England	+
Australian Red Cross Society: Bodington	+	.	.	.
Ballina District	+	.	.
Batlow District	+
Bathurst District	+	+	+	+	+
Bega District	+	+	.	+	+
Bellinger River District	+	+	+	+	.
Berrima District, Bowral	+	.	+	+	+
Blayney District	+	.
Blue Mountains District Anzac Memorial	+	+	.	+	+
Bourke District	+	+	+	+
Brentwood, Muswellbrook	+	.	.	.
Broken Hill and District	+	+	+	+	+
Bulli	+	+	+	+	+
Camden District	+	.	.	.	+
Carcoar District	+	.
Cessnock District	+	+	+	+	+
Coffs Harbour and District	+	+	+	+	+
Condobolin District	+	.	.	.
Coolah District	+	+	+	.
Cooma District	+	+	.	.	+
Cootamundra District	+	+	.	.	+
Cowra District	+	.	.	+	.
Crookwell District	+	+
Dubbo Base	+	+	.	+	+
Dungog and District	+	.	+	.	.
Forbes District	+
Gilgandra District	+	+
Glen Innes District	+	.	.
Gosford District	+	.	.	.
Goulburn Base	+	+	+	+	+
Grafton Base	+	+	+	+	+
Griffith District	+	+	.	+	+
Gundagai District	+	.	.

Hospital	Biochemistry	Bacteriology	Haematology	Histo- pathology	V.D. Serology
<i>Country</i> —continued					
Hawkesbury Benevolent Society and Hospital	+	+	+	+	+
Hay	+	+	.	+	.
Hillston	+	.	+	.
Inverell District	+	.	.
Junee District	+	.
Kurri Kurri District	+	+	.	.	+
Lake Cargelligo District	+	+
Leeton District	+	+	+	+	+
Lithgow District	+	.	.	+
Macksville and District	+	+	+	+	+
Macleay District, Kempsey	+	+	+	+	+
Maitland	+	+	+	.	+
Manning River District	+	+	.	.	+
Mercy, Cootamundra	+	.
Mudgee District	+	+	.	+	+
Narrandera District	+	+	.	.	.
Narromine District	+	.
Nepean District, Penrith	+	.	+	+	+
Newcastle Mater Misericordiae (Waratah) ..	+	+	+	.	+
Newcastle Western Suburbs Maternity	+	.	.
Orange Base	+	+	.	.	+
Pambula District	+	.
Queen Victoria and Picton Lakes Homes, Thirlmere	+
Royal Newcastle	+	.	+	.	+
Rylstone District	+	.	.	.
St John of God (Goulburn)	+	.	.	+	.
Scott Memorial, Scone	+	+	+	+	.
Shoalhaven District Memorial	+	+	+	+	+
Singleton District	+	+	.	.	+
Tamworth Base	+	.	+	.	.
Temora and District	+	+	.	.	+
Tumut and District	+	.	+	.	.
Wagga Wagga Base	+	+	+	+	+
Walgett District	+	.	.	.
Wallsend District	+	.	.	+	.
Wee Waa District	+	.
Wellington District	+
Wollongong	+	+	+	.	+
Wyalong and District	+	.	.	.	+
Yeoval	+	.	.	.

APPENDIX A

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

STATISTICAL SUMMARY OF SPECIMENS RECEIVED AND EXAMINATIONS COMPLETED

1ST JANUARY, 1966–31ST DECEMBER, 1966

<i>Histopathology</i>								1965	1966
Number of specimens—									
Surgical biopsy	..	..	..	..	..	..	..	11,001	10,568
Post-mortems (internal)	..	..	..	..	..	..	..	243	231
Post-mortems (external)	..	..	..	..	..	..	..	123	142
Miscellaneous	..	..	..	..	..	..	..	38	298
								11,405	11,239
Examinations completed—									
Paraffin sections	..	..	..	..	..	..	..	37,737	37,543
Frozen sections	..	..	..	..	..	..	..	165	124
Post-mortems (internal)	..	..	..	..	..	..	..	243	231
Miscellaneous	..	..	..	..	..	..	..	38	298
								38,183	38,196
Chorionic Gonadotrophin Assay (Galli-Mainini)								177	215
Immunology—									
Gastric parietal cell antibodies in serum	..	..	..	..	..	..	..	30	6
Anti-nuclear factor in serum	..	..	..	..	..	..	..	25	45
Thyroid antibodies in serum	..	..	..	..	..	..	..	10	34
Latex flocculation test for rheumatoid factor	..	..	..	..	..	..	..	3	4
								68	89
<i>Virology</i>									
A. Specimens for virus isolation—									
Faeces	..	..	..	..	..	..	..	499	195
Throat washings	..	..	..	..	..	..	..	917	508
Cerebrospinal fluid	..	..	..	..	..	..	..	161	122
Miscellaneous	..	..	..	..	..	..	..	407	501
B. Blood for antibody estimations—									
Complement fixation tests	..	..	..	..	..	..	..	600	701
Neutralization tests	..	..	..	..	..	..	..	235	258
C. Serum for toxoplasmosis investigation								1,257	1,418
D. Smears for inclusion bodies (trachoma)								10	45
E. Viruses for identification								34	13
								4,120	3,761
Examinations completed—									
Virus isolation and identification investigations	..	..	..	..	..	..	..	4,864	2,615
Complement fixation tests	..	..	..	..	..	..	..	1,782	2,117
Neutralization tests—									
Polio	..	..	..	..	..	..	..	105	3
Coxsackie	..	..	..	..	..	..	..	606	486
E.C.H.O.	..	..	..	..	..	..	..	40	4
Herpes simplex	..	..	..	..	..	..	..	3	..
Vaccinia	..	..	..	..	..	..	..	15	5
Rubella	..	..	..	..	..	..	..	67	411
Inclusion bodies (trachoma)	..	..	..	..	..	..	..	7	46
Haemagglutination tests	..	..	..	..	..	..	..	1,124	1,355
								8,613	7,042

Biochemistry

								1965	1966
Number of specimens	..	..	..	..	..	..	..	15,714	20,008
Examinations completed—									
C.S.F. for—									
chloride	..	..	..	..	..	..	..	80	60
colloidal mastic reaction	..	..	..	..	..	..	..	571	1,200
globulin	..	..	..	..	..	..	..	60	40
glucose	..	..	..	..	..	..	..	68	59
protein	..	..	..	..	..	..	..	86	80
Blood and Serum for—									
acid phosphatase	..	..	..	..	..	..	..	326	349
alkaline phosphatase	..	..	..	..	..	..	..	1,228	1,268
amylase	..	..	..	..	..	..	..	74	81
bilirubin	..	..	..	..	..	..	..	1,053	1,143
bromide	..	..	..	..	..	..	..	87	100
calcium	..	..	..	..	..	..	..	366	485
cholesterol	..	..	..	..	..	..	..	937	1,054
creatinine and creatine	..	..	..	..	..	..	..	88	172
electrolytes, sodium, potassium, chlorides, CO ₂	..	..	..	..	..	..	..	5,382	5,444
glucose	..	..	..	..	..	..	..	392	804
iron, total iron binding capacity	..	..	..	..	..	..	..	2,441	3,457
lipids	..	..	..	..	..	..	..	*	238
lactic dehydrogenase, glutamic pyruvic transaminase, glutamic oxalacetic transaminase	..	..	..	..	..	..	..	853	1,191
foetal haemoglobin	..	..	..	..	..	..	..	*	63
methaemoglobin and sulphaemoglobin	..	..	..	..	..	..	..	15	27
phosphate (inorganic)	..	..	..	..	..	..	..	216	229
proteins, total	..	..	..	..	..	..	..	2,474	2,863
proteins, albumin	..	..	..	..	..	..	..	481	786
proteins, globulin	..	..	..	..	..	..	..	481	782
proteins, electrophoresis	..	..	..	..	..	..	..	1,965	2,236
protein-bound iodine	..	..	..	..	..	..	..	3,273	5,974
urea	..	..	..	..	..	..	..	2,916	3,410
uric acid	..	..	..	..	..	..	..	789	1,088
zinc turbidity	..	..	..	..	..	..	..	1,015	287
Faeces for—									
fats	..	..	..	..	..	..	..	351	359
occult blood	..	..	..	..	..	..	..	250	292
tryptic activity	..	..	..	..	..	..	..	1	5
Gastric fluid for general analysis	..	..	..	..	..	..	..	41	26
Urine for—									
bilirubin, porpobilinogen, urobilinogen	..	..	..	..	..	..	..	14	14
porphyrins	..	..	..	..	..	..	..	*	50
catecholamines	..	..	..	..	..	..	..	804	869
17-oxosteroids/oxogenic steroids	..	..	..	..	..	..	..	1,387	1,897
5-hydroxy indoles	..	..	..	..	..	..	..	..	36
urea	..	..	..	..	..	..	..	24	30
sugar	..	..	..	..	..	..	..	104	282
Calculi for analysis	..	..	..	..	..	..	..	124	96
Miscellaneous chemical examination	..	..	..	..	..	..	..	1,940	1,484
								32,757	40,410

* These investigations previously included in miscellaneous.

Bacteriology

							1965	1966
Number of specimens	..	..	..	..	..	..	15,140	15,210
Examinations completed—								
Antibiotic sensitivity tests	..	..	..	..	..	..	16,648	12,288
Blood culture	..	..	..	..	..	..	56	60
Cerebrospinal fluid cell count			..	..	..	..	66	55
Cerebrospinal fluid culture	..	..	..	..	..	..	18	19
Dark-ground preparation, spirochaetes			..	..	..	..	4	1
<i>Escherichia coli</i> , serotype identification			..	..	..	..	10	185
Faeces, microscopic examination			..	..	..	..	124	97
Faeces, culture	..	..	..	..	..	..	413	775
Guinea pig inoculation, <i>M. tuberculosis</i> (other than milk)	..						455	610
Haemolytic streptococci, Lancefield grouping				..	..		229	178
Milk, guinea pig inoculation, <i>M. tuberculosis</i>				..	..		41	17
Milk, guinea pig inoculation, <i>B. abortus</i>			..	..	..		41	10
Nasal smears, <i>Mycobacterium leprae</i>			..	..	..		31	37
Nasal swabs, culture	..	..	..	..	..	..	75	27
Pus, Gram's stain	..	..	..	..	..	..	455	501
Pus, culture	..	..	..	..	..	..	455	501
Culture, identification	..	..	..	..	..	..	511	307
Skin, hair and nail, direct examination			..	..	..	..	189	201
Skin, hair and nail, culture for fungi			..	..	..	..	183	225
Sensitivity tests, <i>M. tuberculosis</i>		..	..	..	..	..	1,831	2,294
Sputum, Gram's stain		..	..	..	..	..	899	706
Sputum, culture	..	..	..	..	..	..	899	706
Sputum, Ziehl-Neelsen stain	..	..	..	..	..	..	4,402	3,701
Sputum, culture	..	..	..	..	..	..	4,402	3,701
<i>Staphylococcus aureus</i> , bacteriophage typing				..	..		221	423
Sterility tests	..	..	..	..	..	..	..	2
Throat swab culture	..	..	..	..	..	..	727	411
Urethral smears, Gram's stain			..	..	..	..	1,479	1,930
Cervical smears, Gram's stain	..		..	..	..	..	539	980
Urine, chemical examination	..	..	..	..	..	..	1,900	1,921
Urine, microscopic examination		..	..	..	..	..	1,900	1,921
Urine, Gram's stain	..	..	..	..	..	..	748	1,997
Urine, culture	..	..	..	..	..	..	748	1,997
Vaccines	..	..	..	..	..	..	13	7
Vaginal discharge, <i>Candida albicans</i>	..	..	..	..	..	..	49	80
Vaginal discharge, Trichomonads	..	..	..	..	..	..	5	349
Brucella agglutination test	..	..	..	..	..	..	415	335
C-reactive protein test	..	..	..	..	..	..	2	3
Rose-Waaler test	..	..	..	..	..	..	1,396	931
Weil-Felix reaction	..	..	..	..	..	..	75	78
Widal reaction	..	..	..	..	..	..	134	160
Anti streptolysin "O" titre	..	..	..	..	..	..	1,086	1,265
Casoni test	..	..	..	..	..	..	8	10
Mantoux test	..	..	..	..	..	..	232	370
Miscellaneous bacteriology	..	..	..	..	..	..	287	72
							44,401	42,444

Haematology

							1965	1966
Number of specimens	..	..	..	..	..	..	6,569	7,234
Examinations completed—								
Haemoglobin	..	..	..	..	..	..	4,441	4,849
Haematocrit	..	..	..	..	..	..	3,904	4,248
Red cell count	..	..	..	..	..	..	36	40
Reticulocytes	..	..	..	..	..	..	388	308
White cell count	..	..	..	..	..	..	2,331	2,874
Differential white cell count	..	..	..	..	..	..	2,229	2,400
Eosinophil count	..	..	..	..	..	..	6	1
Platelet count	..	..	..	..	..	..	249	189
Examination of blood film	..	..	..	..	..	..	4,545	4,946
Malaria	..	..	..	..	..	..	5	..
Blood sedimentation rate (E.S.R.)	..	..	..	..	..	..	1,661	2,027
L.E. cells	..	..	..	..	..	..	63	76
Prothrombin time	..	..	..	..	..	..	115	185
Examination of blood film for lead	..	..	..	..	..	..	3	..
Group and Rh factor	..	..	..	..	..	..	406	404
Cross-matching	..	..	..	..	..	..	464	411
Bone marrow examination	..	..	..	..	..	..	103	123
Bleeding and clotting times	..	..	..	..	..	..	11	21
Investigation of haemostatic defects	..	..	..	..	..	..	8	2
Serum vitamin B ₁₂	..	..	..	..	..	..	1,215	1,496
Serum folic acid	..	..	..	..	..	..	571	719
Intrinsic factor assay	..	..	..	..	..	..	10	2
Blood volume	}	radioisotope		..	..	..	4	9
Red cell survival				..	..	..	4	4
Schilling test		tracer method		..	..	..	40	32
Coomb's test	..	..	..	..	..	..	311	326
Red cell fragility	..	..	..	..	..	..	..	5
Paul-Bunnell reaction	..	..	..	..	..	..	311	211
Haemoglobin electrophoresis	..	..	..	..	..	..	93	115
Histidine load	..	..	..	..	..	..	33	10
Miscellaneous	..	..	..	..	..	..	65	47
							23,625	26,080

Venereal Disease Serology

Examinations completed—

Quantitative Wassermann Reaction	..	..	..	..	2,042	1,996
Wassermann Reaction	..	..	..	..	43,888	41,919
Kahn Test	..	..	..	..	..	..
Reiter Protein Complement Fixation Test	..	..	..	..	40,686	45,562
V.D.R.L. Test	..	..	..	..	40,997	43,135
Hydatid Complement Fixation Test	..	..	..	..	161	230
Gonococcal Complement Fixation Test	..	..	..	..	6,993	7,722
L.G.V. Complement Fixation Test	..	..	..	..	293	34
Treponema Pallidum Immobilization Test	..	..	..	..	3,373	4,164
Fluorescent Treponemal Antibody Test	..	..	..	..	375	1,801
					138,808	146,563

Exfoliative Cytology

								1965	1966
Number of specimens received—									
Gynaecological	..	..	..	..	..	..	..	87,828	127,890
General	..	..	..	..	..	..	..	976	1,456
								88,804	129,346
Number of smears examined—									
Gynaecological	..	..	..	..	..	..	..	87,828	127,890
General	..	..	..	..	..	..	..	2,928	4,368
								90,756	132,258

Total Number of Investigations Completed

Histopathology	..	..	..	..	..	..	..	38,183	38,196
Chorionic Gonadotrophin Assay	..	..	..	..	..	..	..	177	215
Immunology	..	..	..	..	..	..	..	68	89
Virology	..	..	..	..	..	..	..	8,613	7,042
Biochemistry	..	..	..	..	..	..	..	32,757	40,410
Bacteriology	..	..	..	..	..	..	..	44,401	42,444
Haematology	..	..	..	..	..	..	..	23,625	26,080
Venereal Disease Serology	..	..	..	..	..	..	..	138,808	146,563
Exfoliative Cytology	..	..	..	..	..	..	..	90,756	132,258
								377,388	433,297

APPENDIX B**THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH**

ADDRESSES TO LEARNED SOCIETIES AND PUBLIC BODIES BY STAFF MEMBERS DURING 1966

“Salivary Gland Tumours”. Address to Australian and New Zealand Society of Oral Surgeons. February 1966. Dr H. Kramer.

“The Megaloblastic Anaemias”. Address to The Sydney Hospital Seminar. June 1966. Dr B. J. Arnold.

“The various methods of taking a smear” and “The technique of Cervical Cone Biopsy”. Address to General Practitioner Refresher Course, Royal Hospital for Women. June 1966. Dr T. J. Ryan.

“Splenic Phagocytosis”. Address to meeting of College of Pathologists of Australia (N.S.W. Branch). July 1966. Dr S. Fisher.

“A General Approach to the Quantitation of Neutral Steroids in Urine”. Address to meeting of Endocrine Society of Australia. August 1966. Dr R. N. Beale.

“Observations on the Adjuvant Effect”. Address to Annual meeting of the College of Pathologists of Australia. August 1966. Dr S. Fisher.

“Newer Methods of Syphilis Detection”. Address to meeting of Royal College of Obstetricians and Gynaecologists. September 1966. Dr M. F. Garner.

“Geriatric Haematology”. Address to the Geriatric Nursing Course, Repatriation Department, Commonwealth of Australia. September 1966. Dr B. J. Arnold.

APPENDIX C

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

WEEKLY SEMINARS HELD DURING 1966

(IN CONJUNCTION WITH THE LIDCOMBE HOSPITAL AND HOME)

<i>Date.</i>	<i>Subject and Speaker.</i>
14th February, 1966.	"Xanthematoses". Dr M. A. Mischkel, Physician, The Prince Henry Hospital.
21st February, 1966.	"Rheumatoid Arthritis" (I) Clinical Aspects—Dr K. D. Coorey, Staff Physician, Lidcombe Hospital. Complications and Management—Dr G. R. Andrews, Medical Officer, Lidcombe Hospital.
28th February, 1966.	"Rheumatoid Arthritis" (II) Surgery—Dr R. N. Tinning, Orthopaedic Surgeon, Royal North Shore Hospital. Serology—Dr D. E. C. Garrard, Registrar, The Institute of Clinical Pathology and Medical Research. Pathology—Dr J. M. Fitzhardinge, Histopathologist, The Institute of Clinical Pathology and Medical Research.
7th March, 1966.	"Salivary Gland Tumours". Dr H. Kramer, Director, The Institute of Clinical Pathology and Medical Research.
14th March, 1966.	"Dystrophia Myotonica". Dr G. A. Broe, Medical Officer, Lidcombe Hospital, Dr W. G. Jones, Registrar, The Institute of Clinical Pathology and Medical Research.
21st March, 1966.	"Metabolic Abnormalities and Mental Retardation". Dr Brian Turner, Neuropathologist, North Ryde Psychiatric Centre.
28th March, 1966.	"The Concept of Total Care". Dr F. Ehrlich, Surgeon in Charge, Surgical and Rehabilitation Service, Division of Psychiatric Services. Dr S. Sax, Director of Geriatrics, Department of Public Health.
4th April, 1966.	"The Porphyrrias". Dr E. Kocsard, Hon. Dermatologist, Lidcombe Hospital. Mr J. O. Bostrom, Microbiologist, The Institute of Clinical Pathology and Medical Research.
18th April, 1966.	"Starvation". Dr H. M. Whyte, Director, Medical Research, Kanematsu Memorial Institute of Pathology, Sydney Hospital.
2nd May, 1966.	"The Epilepsies". Dr L. S. Basser, Hon. Neurologist, Lidcombe Hospital.
20th June, 1966.	"Some Aspects of the Collagen Diseases". Dr J. Hassell, Physician, Royal Prince Alfred Hospital.
27th June, 1966	"The Immunological Boomerang". Dr S. Fisher, Department of Bacteriology, The Institute of Clinical Pathology and Medical Research.
4th July, 1966.	"The Megaloblastic Anaemias". Dr B. Arnold, Department of Haematology, The Institute of Clinical Pathology and Medical Research.
11th July, 1966.	(a) "The Hormonal Control of Ovulation". Professor Harvey Carey, Professor of Obstetrics and Gynaecology, University of New South Wales. (b) "Hormonal Effects on the Endometrium". Dr Osborne, Pathologist, Royal Hospital for Women, Paddington.
18th July, 1966.	"Colitis in the Elderly". Dr A. P. Skyring, Director, Sir William Morrow Gastroenterology Unit, Royal Prince Alfred Hospital.
25th July, 1966.	(a) "Congenital Rubella". Dr Margaret Menser, Honorary Medical Officer, Children's Hospital, Camperdown. (b) "Virological Aspects of Rubella". Mr A. M. Murphy, Virology Department, The Institute of Clinical Pathology and Medical Research.
8th August, 1966.	"Muscular Dystrophies" (1) Case Demonstrations. Dr P. Brown, Medical Officer, Lidcombe Hospital. (2) Pathology of Muscular Dystrophies. Dr J. Booth, Pathologist, The Institute of Clinical Pathology and Medical Research.
15th August, 1966.	"Patterns of Drinking in Japan". Mrs M. Sargent, Clinical Psychologist, Lidcombe Hospital.
22nd August, 1966.	"An Approach to the Problem of Cerebrovascular Accident". Dr K. Coorey, Staff Physician, Lidcombe Hospital. Dr G. Andrews, Deputy Medical Superintendent, Lidcombe Hospital.
29th August, 1966.	"Extrapyramidal Syndromes and their Treatment". Dr George Selby, Honorary Medical Officer, Royal North Shore Hospital.
5th September, 1966.	(a) "Surgery of the Thyroid". Dr J. Moulton, Honorary Surgeon, Auburn District Hospital. (b) "Pathology of Goitre". Dr J. Carter, Pathologist, The Institute of Clinical Pathology and Medical Research.
17th October, 1966.	"Medicine in Vietnam". Dr R. B. Holland, Lidcombe Hospital.
24th October, 1966.	"Infectious Mononucleosis". Dr B. J. Lake, Hon. Physician, Lidcombe Hospital.
31st October, 1966.	"Migraine". Associate-Professor J. W. Lance, University of New South Wales.
7th November, 1966.	"Mammography in the Detection of Breast Lesions". Dr T. I. Cope, Royal Hospital for Women.
14th November, 1966.	"Lymphangiography and its applications in Cervical Carcinoma". Dr B. H. Dawson, Royal Hospital for Women.
21st November, 1966.	"Toxoplasmosis". Dr R. R. Reid, The Institute of Clinical Pathology and Medical Research.
28th November, 1966.	"The Diagnosis of Gastric Cancer". Associate-Professor D. W. Piper, University of Sydney.
5th December, 1966.	"Medical Writing". Dr R. R. Winton, Editor, Medical Journal of Australia.
12th December, 1966.	"The Pathogenesis of Macular Degeneration". Dr S. Sarks, Hon. Ophthalmologist, Lidcombe Hospital.

APPENDIX D

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

PUBLICATIONS BY STAFF MEMBERS

*"Plasma Therapy in Haemophilia". B. J. Arnold (with W. R. Pitney, Department of Haematology, Royal Perth Hospital, Perth W.A.) Med. J. Aust. 11, 661, 1960.

"A Sensitive Method for the Colorimetric Determination of Urea". R. N. Beale and D. Croft. J. clin. Path., 14, 418, 1961.

"Rapid Incremental Methods for the Determination of Serum Iron and Latent Iron Binding Capacity". R. N. Beale, J. O. Bostrom and R. F. Taylor. J. clin. Path., 14, 488, 1961.

"Herpes simplex of the Fingers". A. M. Murphy (with A. Chancellor, Merrylands, N.S.W.). Med. J. Aust., I, 517, 1961.

"Improved Rapid Methods for the Determination of Iron Content and Binding Capacity of Serum". R. N. Beale, J. O. Bostrom and R. F. Taylor. J. clin. Path., 15, 156, 1962.

"The Determination of Cholesterol in Serum by Persulphuric Acid Oxidation". R. N. Beale and D. Croft. J. clin. Path., 15, 221, 1962.

"The Determination of Urinary 17-ketosteroids by an Improved Zimmermann Reaction". R. N. Beale, J. O. Bostrom and D. Croft. J. clin. Path., 15, 574, 1962.

"The Megaloblastic Anaemias". B. J. Arnold. Med. J. Aust., 11, 698, 1962.

*"Plasma Anti Haemophilic Factor (Factor VIII) Concentrations in Normal Families" B. J. Arnold (with W. R. Pitney, R. L. Kirk and N. S. Stenhouse) Brit. J. Haem. 8, 421, 1962.

"A Fatal Case of Listeria Septicaemia and Meningitis". D. Hansman (with J. C. Farrell, Fairfield District Hospital, N.S.W.) Med. J. Aust., II, 62, 1962.

"Sensitive Methods for the Titrimetric Micro-Determination of Biological Calcium and Magnesium". R. N. Beale and J. O. Bostrom. J. clin. Path., 16, 252, 1963.

"Q Fever among Abattoir Workers in New South Wales". A. M. Murphy and D. Hansman (with J. Henson, Medical Officer of Health, Tamworth, N.S.W.). Med. J. Aust., I, 343, 1963.

"Tetracycline—resistant pneumococcus". D. Hansman (with W. Evans, Royal North Shore Hospital) Lancet, I, 451, 1963 (correspondence).

"Poliovirus in an Infant's Home". A. M. Murphy and N. Martin (with H. Walsh, Epping, N.S.W.) Med. J. Aust., 2, 46, 1963.

*"Reaction of the Pentacyanocobaltate (II) Ion with Molecular Oxygen". R. N. Beale (with R. H. Bayston, N. Kelso King and M. E. Winfield, Chemical Physics Section, Division of Industrial Chemistry, CSIRO, Victoria). Aust. J. Chem., 16, 954, 1963.

"Coxsackie A10 Virus Infections in Sydney". A. M. Murphy. Med. J. Aust., Jan. 11, 1964 (correspondence).

"The Microdetermination of Biological Copper with Oxalyldihydrazide". R. N. Beale and D. Croft. J. clin. Path., 17, 260, 1964.

"N-terminal Residue of Aortic Elastin". K. B. Taylor. Nature, 202, 1217, 1964.

"Leukaemoid Reactions in Disseminated Tuberculosis". K. L. Withers. Med. J. Aust., 2, 142, 1964.

"Coxsackie B4 Virus Infections in New South Wales in 1962". A. M. Murphy and R. Simmul. Med. J. Aust., 2, 443, 1964.

"The Isolation of an Unclassified Virus from an Outbreak of Infantile Diarrhoea". A. M. Murphy. J. Hyg., Camb., 62, 425, 1964.

"*Shigella sonnei* Resistant to Sulphadiazine and Antibiotics". D. Hansman. Med. J. Aust. I. 93, 1965 (correspondence).

"Gas-Liquid Chromatography of Urinary Steroids in the Investigation of Endocrine Function". R. N. Beale, D. Croft and R. F. Taylor. Proc. Aust. Assoc. Clin. Biochem. Vol. 1, No. 4, 1964.

"A Problem in the Diagnosis of Gastric Ulcer". K. L. Withers. Med. J. Aust., Nov. 20, 1965 (correspondence).

"Serum Folate Assay in Diagnostic Haematology". B. J. Arnold. Reports of Scientific Meetings No. 5, J. Coll. of Path. Aust., 1965.

"Q Fever, Brucellosis and Leptospirosis among Abattoir Workers in New South Wales". A. M. Murphy (with D. Hansman, J. Wanna, T. J. Woolard and J. R. F. Boger) Med. J. Aust.

"The Management of Pre-Clinical Cervical Carcinoma". T. J. Ryan. Aust. N.Z. J. Obstet. Gynaec.

"The Isolation of Rubella Virus from Cataracts Removed at Operation". R. R. Reid and A. M. Murphy (with A. Gillespie, M. Menser and J. Harley).

"The Analysis of Urinary Steroids by Gas-Liquid Chromatography". "I. Progesterone Metabolites", R. F. Taylor. "II. Urinary Oestrogens", D. Croft. "III. Urinary Androgens and Corticosteroids", R. N. Beale. Proc. Aust. Assoc. Clin. Biochem. Vol. 1, No. 6, 1965.

"The Serodiagnosis of Syphilis". M. F. Garner. Med. J. Aust. II, 328, 1966.

"The Value of the Treponema Pallidum Immobilisation test (T.P.I.) in anomalous Syphilis Serology". M. F. Garner and N. M. Grantham. Med. J. Aust. II, 1101, 1966.

"Renal-Artery Stenosis in the Rubella Syndrome". Margaret A. Menser, D. C. Dorman, R. D. K. Reye and R. R. Reid. The Lancet, April 9, 1966, p.p. 790-792.

"Possible Chemical Factors in the Postnatal Development of Rubella Cataracts". Margaret A. Menser, J. D. Harley, C. J. Housego and A. M. Murphy. The Lancet, October 8, 1966, p.p. 771.

Publications in Press:

"The Expanded Congenital Rubella Syndrome. Report of two cases with neonatal purpura and Review of the Recent Literature". R. R. Reid and A. M. Murphy with D. W. O'Gorman Hughes, R. Parkinson and John Beveridge.

"The Determination of Metachromasia with 1:9-Dimethyl Methylene Blue". K. B. Taylor.

"A General Approach to the Quantitation of Neutral Steroids in Urine". R. N. Beale (D. Croft and R. F. Taylor). Proceedings of the Endocrine Society of Australia.

"The Fluorescent Treponemal Antibody (FTA-200) Test in the Serodiagnosis of Syphilis". M. F. Garner, C. A. Collins, J. H. Robson.

"Population Screening and the Irrigation Smear Technique". T. J. Ryan and I. Vevers.

"McArdle's Syndrome". Dr J. D. Woolridge, Dr N. Cuthbert-Jones, Dr K. B. Taylor.

"Comparison of Neutralizing Antibodies to Rubella Virus in γ Globulin and Convalescent Serum". R. R. Reid and A. M. Murphy.

Work in Preparation:

"Steroid patterns in normal and hirsute females as determined by Gas Liquid Chromatography". R. F. Taylor, R. N. Beale and D. Croft. Proceedings of the Aust. Assoc. of Clinical Biochemists.

"Gas Chromatographic Quantitation of Steroids in Health and Disease". R. N. Beale, D. Croft and R. F. Taylor. "Part 1. The investigation of Sodium Bismuthate as an oxidant". "Part 2. Column Packings and Steroid Derivatives".

"Atrophic Gastritis in the Aged". G. R. Andrews, B. Haneman, B. J. Arnold, J. Cooper-Booth and K. B. Taylor.



